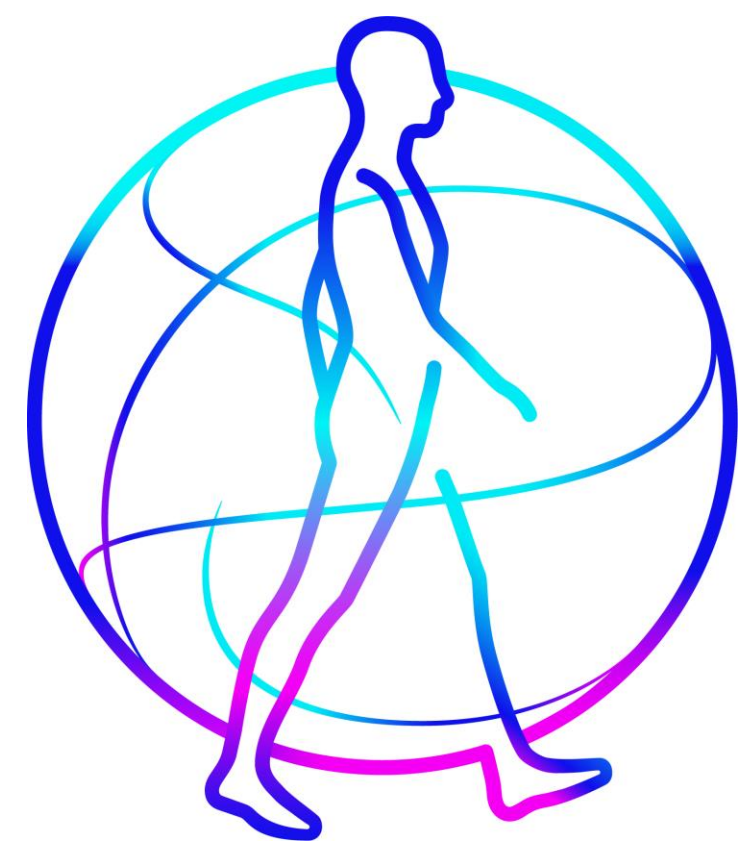


SHORT TERM DIRECT COST DRIVERS IN T1D IN LATIN AMERICAN COUNTRIES: A SYSTEMATIC REVIEW

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Background & Objective:

- Diabetes mellitus (DM) is estimated to affect 32.5 million people in Latin America (LatAm), with a prevalence of 9.9% in the adult population.
- The estimated total cost of diabetes in the region is \$102-123 billion USD, but local data on short-term direct cost drivers of Type 1 Diabetes (T1D) is scarce.
- There is an urgent need to collect and collate local data to understand the baseline economic impact of T1D.

► **The objective is to identify available cost data for T1D to support the development of economic evaluations on short-term cost drivers**

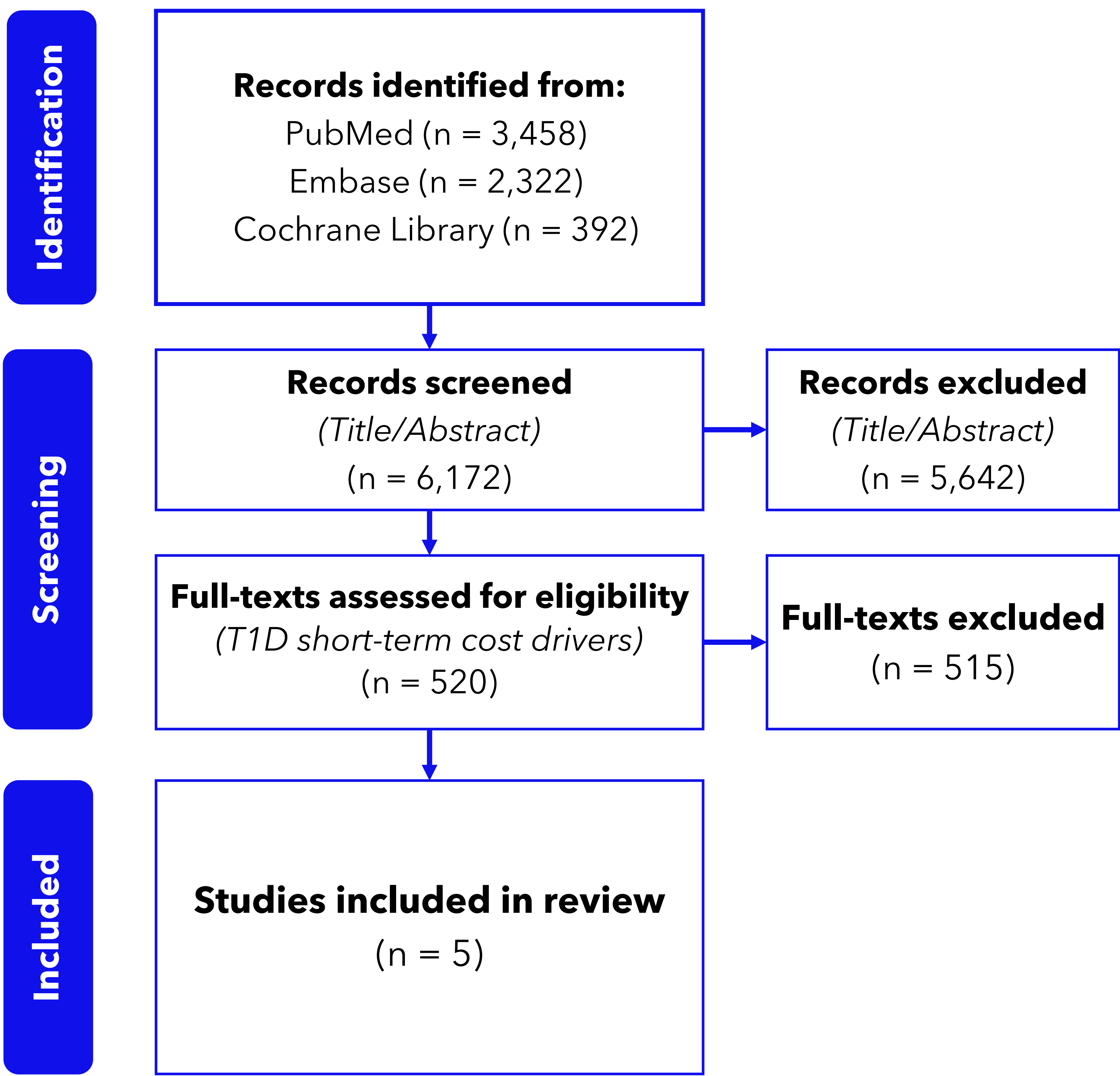
Methods:

- **Study design:** Systematic Literature Review.
- **Data Source:** PubMed, Embase, Cochrane Library.
- **Population:** People with insulin-dependent DM in LatAm.
- **Inclusion criteria:** 1) Quantitative studies reporting complication rates and/or healthcare resource utilization and costs associated with DM in LatAm. 2) Quantitative studies focusing on short-term cost drivers for T1D.
- **Exclusion criteria:** Non-human studies, non-systematic reviews, qualitative studies and opinion pieces.
- **Identification, screening, review** and **selection** were performed by two independent reviewers.
- **Quality check, data extraction** and **synthesis** were performed by one independent reviewer.
- A conversion and inflation rate was applied where relevant to **2022 USD**.

Table 2: Study description

Author	Title	Year	Country	Design	Sample Size	Population	Conclusion
Aronson et al.	Direct and indirect health economic impact of hypoglycemia in a global population of patients with insulin-treated diabetes	2018	Latin America	Prospective study	27,285	Diabetes Mellitus	This study shows that hypoglycemia has a significant but variable impact on the economics of diabetes healthcare globally.
Cobas et al.	The cost of type 1 diabetes: a nationwide multicenter study in Brazil	2013	Brazil	Retrospective, cross-sectional multicenter study	3,180	Type 1 Diabetes	Treatment-related expenditure represented 92.20% of total direct medical costs. Insulin administration supplies and SMBG accounted for 52.82% of these. Medical procedures and hemodialysis accounted for 5.73% of direct medical costs.
Ferreira et al.	Brazilian type 1 & 2 diabetes disease registry (BINDER): A snapshot of diabetes mellitus (DM) in Brazil	2022	Brazil	Prospective study	11,266	Diabetes Mellitus	Most patients did not reach the HbA1c target in private or public health systems. At the 2-year follow-up, there were no significant improvements in HbA1c in either T1D or T2D, which suggests an important clinical inertia.
Valencia et al.	Socio demographic and clinical characteristics of T1D patients associated with emergency room visits and hospitalization in Mexico	2018	Mexico	Cross-sectional study	192	Diabetes Mellitus	Common risk factors for ER visits and hospitalization were older age at the beginning of diabetes, severe acute complications, chronic microvascular and macrovascular complications, and other comorbidities
Altamirano et al.	Economic costs associated with type 1 diabetes	2009	Latin America	Economic survey	50	Type 1 Diabetes	Economic cost associated to type 1 diabetes is important and presents an increase with hospitalizations related to diabetes, and micro and macrovascular complications.

Table 1. PRISMA Flowchart



Results

- **N = 7** studies were identified and included in the analysis.
- In **Brazil**, a direct annual per capita cost of \$1.687,53, with regional variation from \$1.602,69 to \$1.875,85 for all populations was reported.
- In **Mexico**, a 39.0% annual rate of ER visits, and a 33.9% annual rate of hospitalizations were reported.
- In **Mexico**, a direct annual cost per family caring for children with T1D of \$3.265,58 was reported.

Conclusion

Conducting local direct cost studies is critical to understand the economic impact of T1D on families and health systems in LatAm. More extensive regional research would help account for country differences