

INPLASY PROTOCOL

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Review Stage at time of this submission: Preliminary searches.

Conflicts of interest:
None declared.

Cost analysis of screening testing for Covid-19 surveillance: A systematic review

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Review question / Objective: The study will review the cost of screening testing for Covid-19 surveillance, where the problem (P) is a targeted population with low or high Covid-19 incidence; intervention (I) is screening testing; comparison (C): any test; outcomes (O) are cost and effectiveness.

Condition being studied: The targeted population with low or high Covid-19 prevalence with healthcare, payer, or society perspective from low- and middle- income countries (LMICs) and high-income countries.

Information sources: We will search the published article using PubMed/MEDLINE and Embase databases from 2019 to 2022. We will identify the duplication after pooling the search.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 26 December 2022 and was last updated on 26 December 2022 (registration number INPLASY2022120101).

INTRODUCTION

Review question / Objective: The study will review the cost of screening testing for Covid-19 surveillance, where the problem (P) is a targeted population with low or high Covid-19 incidence; intervention (I) is screening testing; comparison (C): any test; outcomes (O) are cost and effectiveness.

Rationale: A screening test for Covid-19 is very important, especially for early detection and mitigation of the transmission. In addition, the test is also required for people who have mobilization going overseas. Some countries have established a test for one of the requirements applied to people who use

local transportation. Thus, it is necessary to assess the cost of the test.

Condition being studied: The targeted population with low or high Covid-19 prevalence with healthcare, payer, or society perspective from low- and middle-income countries (LMICs) and high-income countries.

METHODS

Search strategy: Search strategy: PubMed/Medline: (("COVID-19"[Mesh] OR "SARS-CoV-2"[Mesh] OR SARS-CoV2*) AND (surveillanc*)) AND ("Costs and Cost Analysis"[Mesh] OR "Cost of Illness"[Mesh] OR "Cost Savings"[Mesh] OR "Cost-Benefit Analysis"[Mesh] OR "Health Care Costs"[Mesh] OR "Hospital Costs"[Mesh] OR "Drug Costs"[Mesh] OR "Economics"[Mesh]). Embase: emb(covid) AND emb(surveillance) AND emb(Cost).

Participant or population: Patients with Covid-19.

Intervention: Covid-19 screening testing.

Comparator: Not applicable.

Study designs to be included: All studies which analyze the cost of Covid-19 testing for surveillance with model-based or trial-based economic evaluation designs.

Eligibility criteria: All economic evaluations from trial-based or model-based studies will be analyzed. We will include economic evaluation studies, including cost minimization, cost-effectiveness analysis, cost-benefit analysis, and cost-utility. We will exclude non-research studies such as book chapters, reports, conference proceedings, and review articles.

Information sources: We will search the published article using PubMed/MEDLINE and Embase databases from 2019 to 2022. We will identify the duplication after pooling the search.

Main outcome(s): Costs.

Additional outcome(s): Utility outcomes including quality-adjusted life year (QALY) and disability-adjusted life year (DALY).

Data management: We will use Rayyan and Mendeley to manage the selection of the articles. We will then extract the data into an excel file.

Quality assessment / Risk of bias analysis: We will use the Consensus on Health Economic Criteria (CHEC) to assess the risk of bias.

Strategy of data synthesis: The collected data will be extracted from the table and then analyzed and synthesized descriptively. The results of the processing will be displayed in a table.

Subgroup analysis: The cost outcome will be assessed according to World Bank classification in terms of high-income countries and low- and middle-income countries (LMICs).

Sensitivity analysis: Sensitivity analysis will be performed using deterministic and probabilistic sensitivity analysis.

Language restriction: We will include English full-text article.

Country(ies) involved: Indonesia, Australia, The Netherlands.

Other relevant information: The study is supported by RISPRO, LPDP, and the ministry of finance, Republic of Indonesia.

Keywords: Covid-19, cost, economic evaluation, testing, surveillance.

Dissemination plans: The study's findings will be disseminated in a peer-review journal.

Contributions of each author:

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Author 2 - Alfian Rosyid - Search strategy; Data curation; Analysis; Methodology; Software; Validation; Writing – original draft.

Author 3 - Samsriyaningsih Handayani - Conceptualization; Data curation; Analysis; Investigation; Methodology; Validation; Writing – original draft.

Author 4 - Brian Rachman - Data curation; Analysis; Writing – original draft.

Author 5 - Achmad Romdhoni - Data curation; Analysis; Writing – original draft.

Author 6 - Makhyan Al Farabi - Data curation; Analysis; Writing – original draft.

Author 7 - Joni Wahyuhadi - Supervision; Writing – original draft.

Author 8 - Rosita Prananingtias - Project administration; Writing – original draft.

Author 9 - Sabarinah Prasetyo - Funding acquisition; Resources; Supervision; Writing – original draft.

Author 10 - Maarten Postma - Supervision; Writing – review & editing.