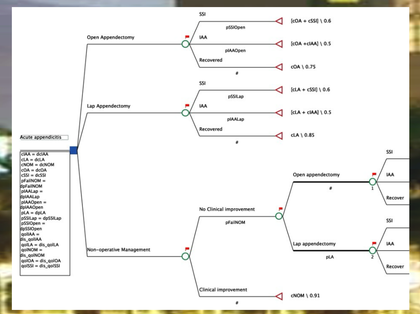
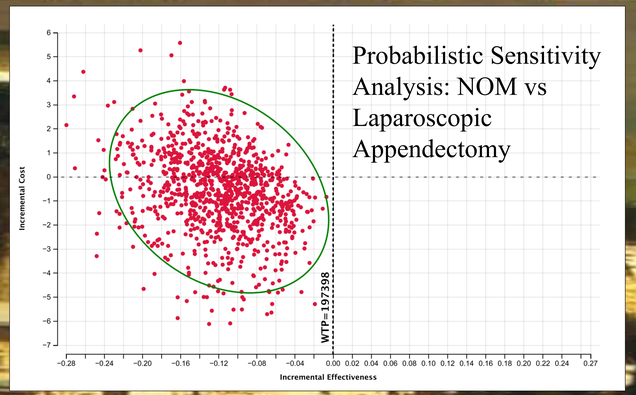
Cost-effectiveness Analysis of Laparoscopic Appendectomy vs Open Appendectomy vs Non-operative Management of Uncomplicated Appendicitis in a Tertiary Private Hospital

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Non-operative management (NOM) for acute appendicitis is a potentially cost-effective option compared to surgical procedures. The Philippine Universal Healthcare Law requires a Health Technology Assessment (HTA) before procedures can be included in practice guidelines and reimbursements by government health assistance. This study aimed to evaluate the cost-effectiveness of NOM of appendicitis versus the operative options of laparoscopic and open appendectomy in the Philippines.





A decision tree model using data from literature review and billing statements of a tertiary private hospital computed the incremental cost-effectiveness ratio (ICER) of NOM compared to operative options. The ICER represented the cost per quality adjusted life year (QALY) for each procedure. The study used a willing-to-pay threshold equivalent to the 2022 GDP per capita, with a payor's perspective and a one-year time horizon. Sensitivity analyses were conducted to assess the model's robustness and identify which variables affected the results. A procedure was considered cost-effective if the ICER was below PHP 197,398 ($3,555).

NOM had a negative ICER compared to both surgical options, at PHP -192,661/QALY ($3,458) and PHP -1,579,615/QALY ($28,350) for open and laparoscopic procedures, respectively. Cost of surgical procedures was found to have a bigger impact on the cost-effectiveness of NOM than probability of recurrence in the sensitivity analysis. A price threshold analysis indicated that lowering the cost of laparoscopic appendectomy to PHP 105,625 ($1,896) would make it more cost-effective than NOM.

This study suggests that NOM is more cost-effective than surgical procedures for treating acute appendicitis. Surgical procedures can become more cost-effective than NOM if their cost is significantly reduced by 54%. It is recommended to consider different economic analysis perspectives before applying NOM as a cost-effective approach in local settings.