



Cost-Effectiveness Analysis of Implementing a Field Hospital during a Pandemic

Tavares Malheiro D, Pereira S, Parreira KCJ, Pagliuso JGD, Codeco AM, Schettino GDPP, Teich V
Hospital Israelita Albert Einstein, São Paulo, SP, Brazil

INTRODUCTION

Field hospitals, notably the Fangcang Shelter Hospital model, emerged as a critical strategy during the global COVID-19 pandemic to alleviate strain on overwhelmed healthcare systems. Despite their widespread adoption, concerns persist regarding their efficacy and cost-effectiveness.

OBJECTIVES

The study aimed to assess the impact of the Pacaembu Field Hospital in São Paulo, Brazil, throughout the COVID-19 pandemic, specifically focusing on lives saved and the associated public health costs.

METHODS

Conducted between April 6th and June 29th, 2020, this retrospective cohort study included COVID-19 patients. The field hospital, a collaboration between Sociedade Beneficente Israelita Brasileira Albert Einstein and the São Paulo City Hall, operated at Pacaembu Stadium with 200 beds, admitting adult patients with mild to moderate COVID-19 without signs of severity. Electronic health records provided comprehensive data on demographics, clinical outcomes, and resource utilization. The mortality rates among field hospital patients were evaluated in comparison to two scenarios: 1) confirmed COVID-19 cases in São Paulo, and 2) severe acute respiratory syndrome patients with COVID-19 in São Paulo.

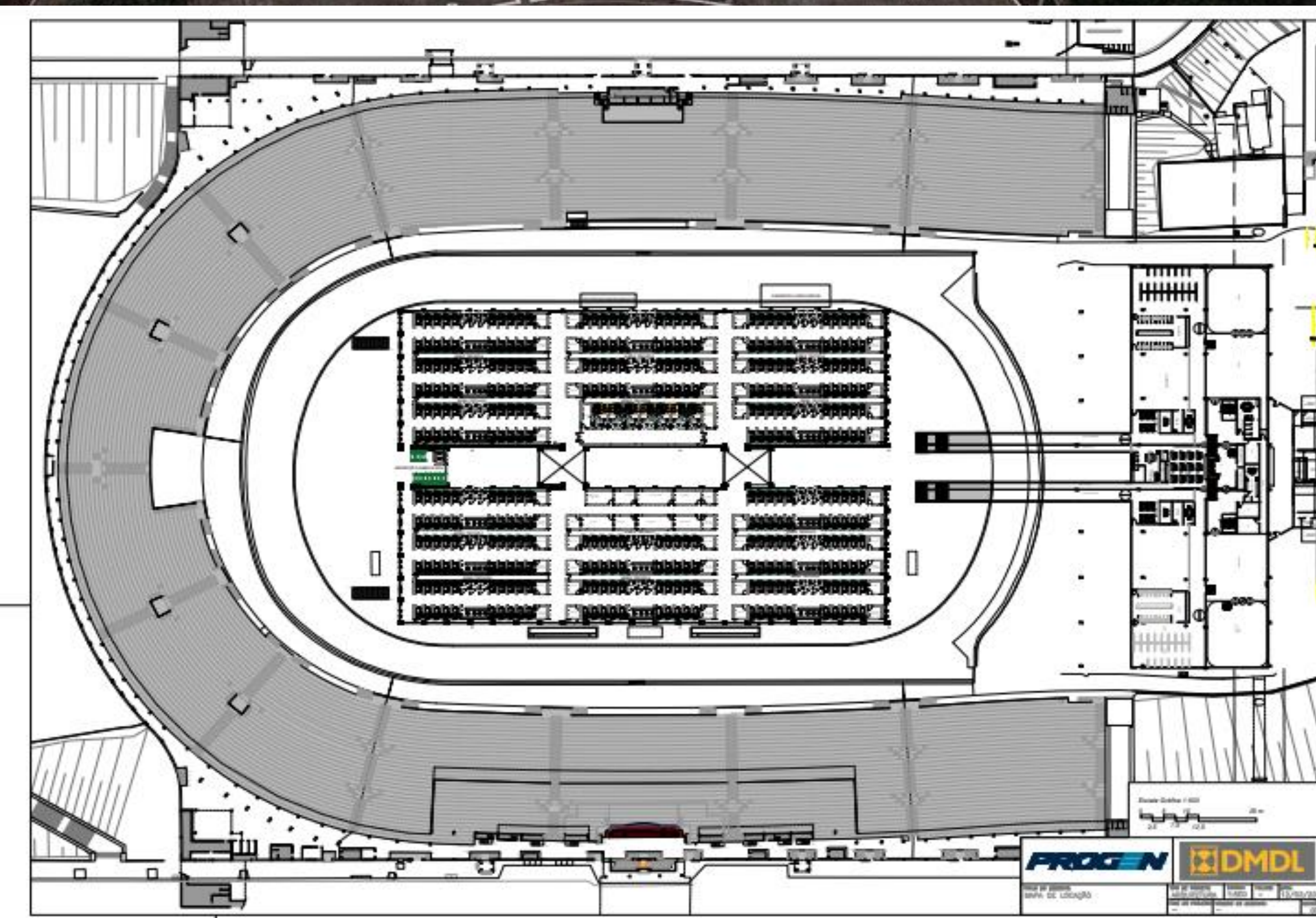
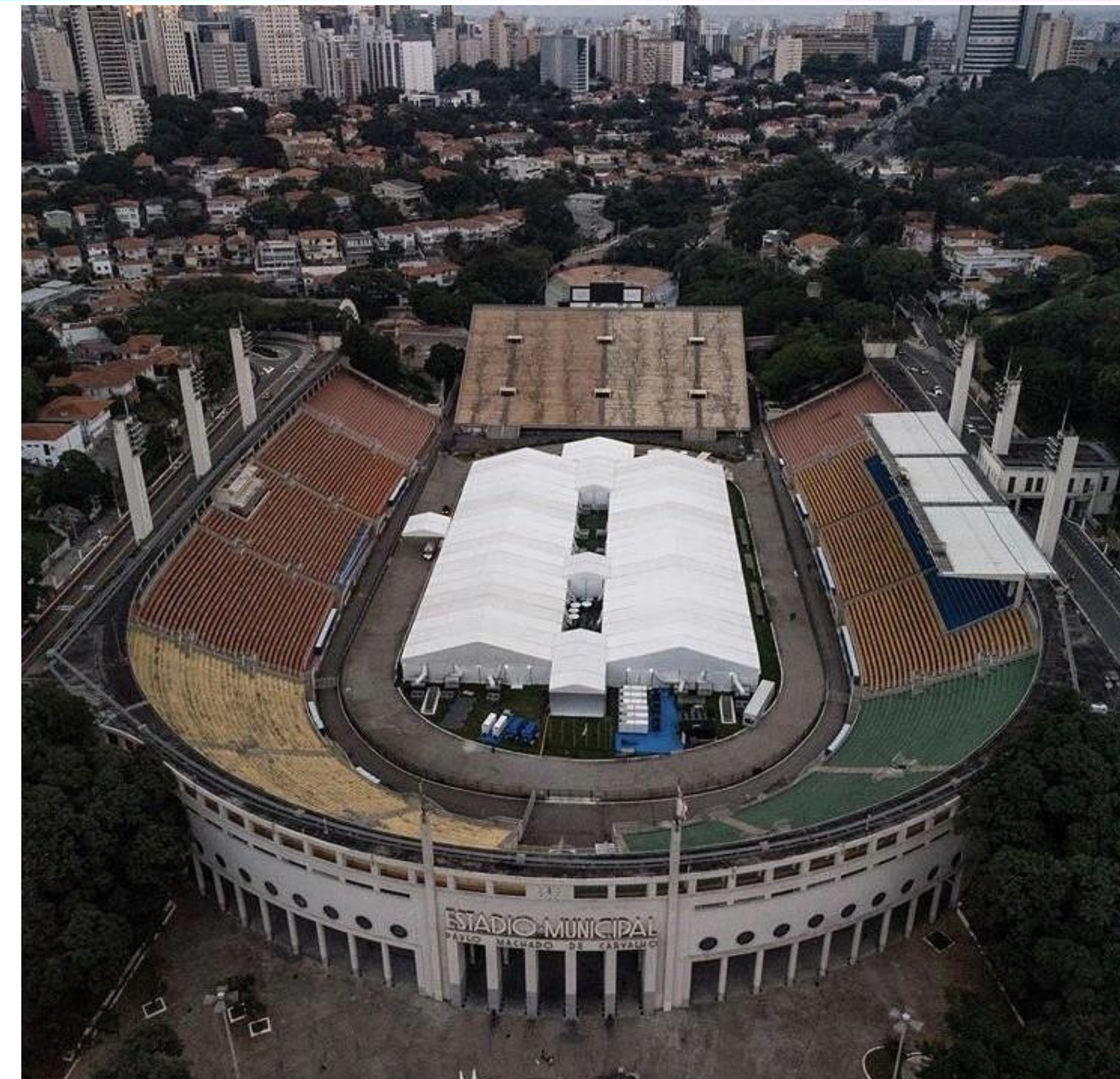


Figure 1 – Pacaembu Field Hospital

REFERENCES

1. Chen S, Zhang Z, Yang J, et al. Fangcang shelter hospitals: a novel concept for responding to public health emergencies. Lancet 2020; 395: 1305–14.
2. Liu P, Zhang H, Long X, et al. Management of COVID-19 patients in Fangcang shelter hospital: clinical practice and effectiveness analysis. Clin Respir J. 2021 Mar;15(3):280-286.
5. Cai Y, Chen Y, Xiao L, et al. The health and economic impact of constructing temporary field hospitals to meet the COVID-19 pandemic surge: Wuhan Leishenshan Hospital in China as a case study. J Glob Health. 2021 Dec 4;11:05023.

RESULTS

Among the 1,499 patients (53.84% males, median age 57), 14.20% utilized the stabilization room, and 7.94% required mechanical ventilation. The hospital contributed to saving 61 and 44 lives for men and women, respectively, translating to 1,252 and 872 years of life saved. Adjusting for mortality rates using IBGE's complete life table, the hospital potentially saved 158 lives, representing 3,332 years of life. After age and sex adjustments, 102 and 83 lives saved equated to 2,193 and 1,784 years of life saved for men and women, respectively. The cost-effectiveness analysis revealed in Scenario 1 a cost per incremental life saved ranging from R\$210,462.90 (US\$39,046.92) to R\$250,198.83 (US\$46,419.08) for men and women, respectively. In Scenario 2, the cost per incremental life saved was higher, varying from R\$442,697.83 (US\$82,133.18) to R\$29,418.51 (US\$5,457.98) for men and women.

CONCLUSION

The study underscores the Pacaembu Field Hospital's substantial contribution to saving lives during the initial COVID-19 wave, emphasizing the need for continuous evaluation and resource optimization in field hospital strategies for an effective pandemic response.