

Application of Budget Impact Model in Evaluation of P2P Payment Strategy in US Health Systems

A. BOSE¹, R. RAHMAN²

¹M. L. Bose Memorial Health Foundation, Camillus, NY, USA

²Institute of Health Economics, Dhaka University, Dhaka, Bangladesh

INTRODUCTION

In USA, approximately 10% of population does not have commercial or government funded health insurance (Tolbert). An innovative Patient to Patient(P2P) healthcare payment network based on pairing member algorithm (Bose) was proposed in 2020. It has been claimed that the proposed P2P payment strategy could eliminate the high cost to hospitals due to Emergency Room (ER) visits by Patients without Insurance (Pwl) who are unable to pay for their hospital bills. This could be accomplished by allowing Pwls to have access to a Primary Care Provider (PCP) in the early stage of their illness. By having access to a PCP at an early stage would prevent the Pwl population from revisiting ER services in a community hospital. Further, this P2P strategy, if adopted by the community health systems, would reduce the economic stress on the health systems by lowering the cost of ER services due to reduction in ER visits by Pw.

OBJECTIVE

The objective of this investigation was to validate the P2P healthcare payment strategy by analyzing the ER patient data in selected US hospitals.

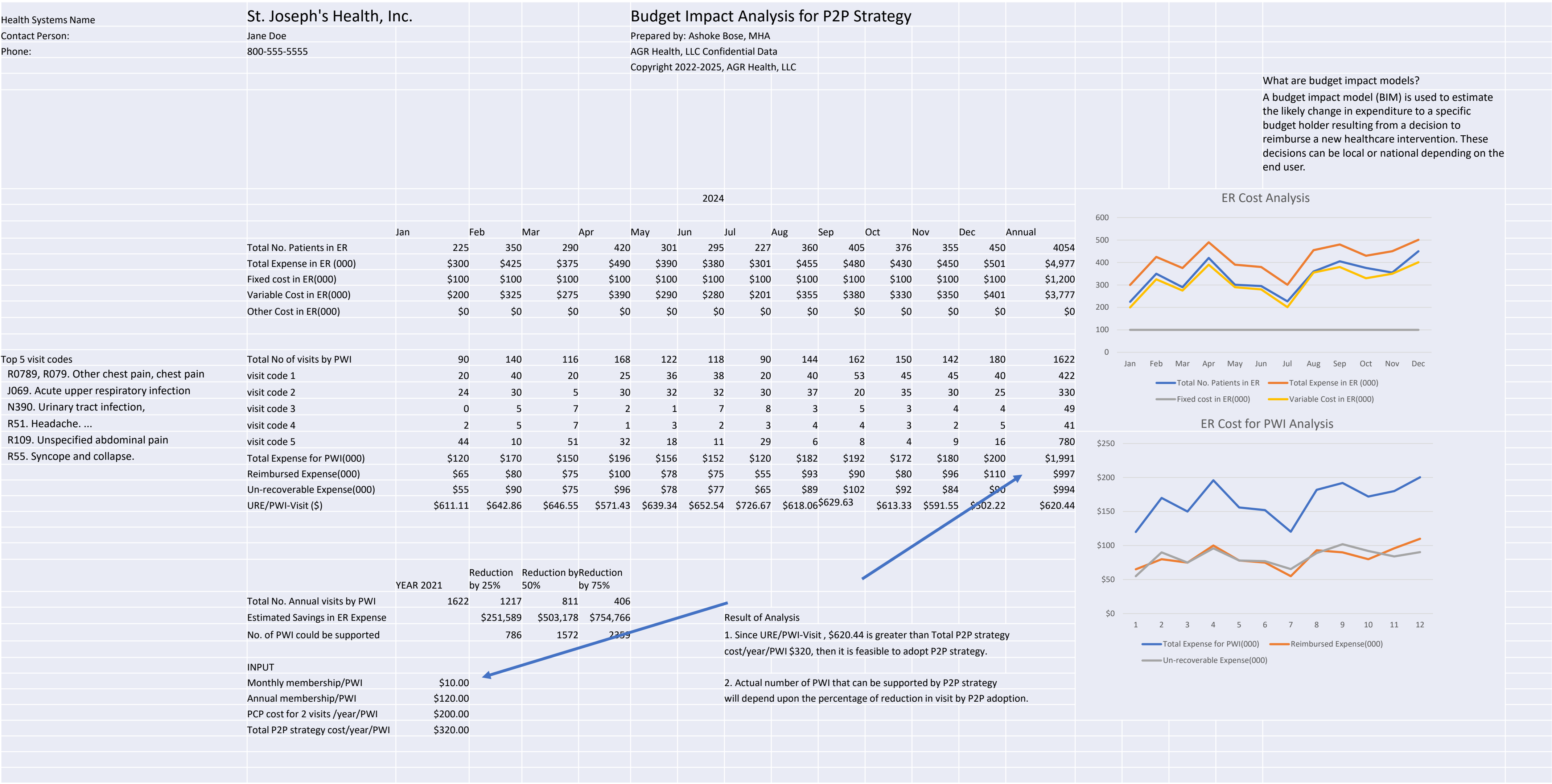
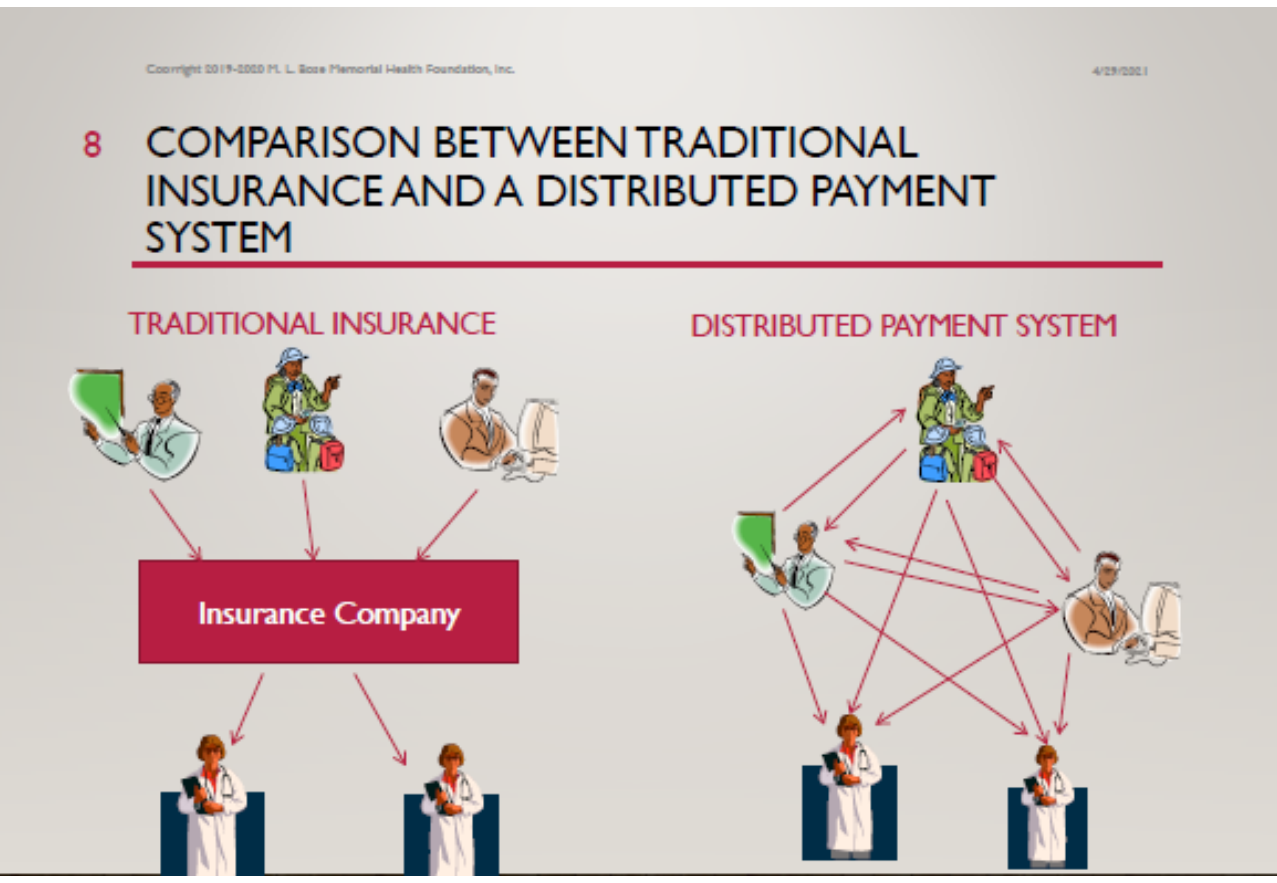
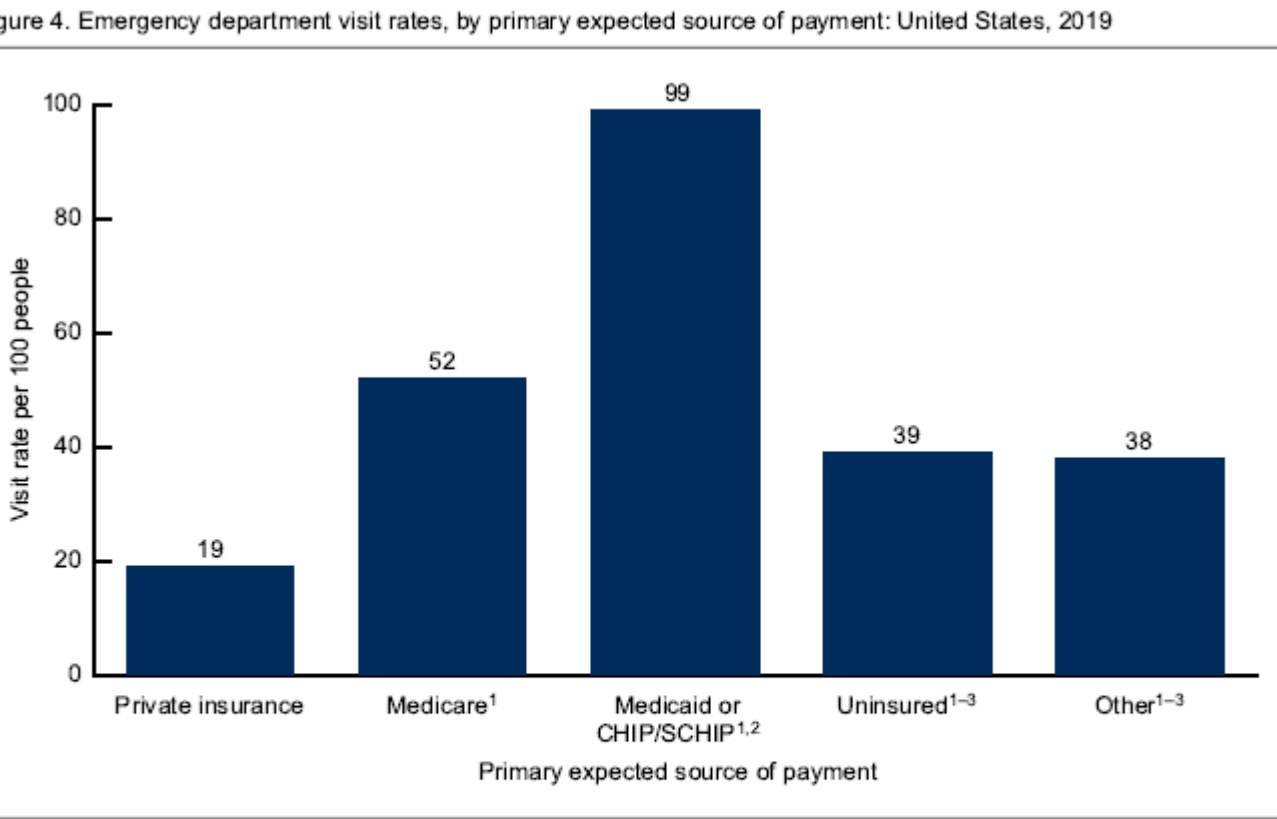
METHOD

AGR Health in cooperation with M. L. Bose Memorial Health Foundation has developed a Budget Impact Model (BIM) evaluation tool to analyze the ER patient data to determine the Return on Investment(ROI) of P2P strategy for health system (HBS). In this paper, we shall discuss the design and application of the BIM evaluation tool to assist hospital executives in adopting P2P strategy.

We developed the following method for determining the Average Unrecoverable Expense per Patient Without Insurance (URE/PWI):

- For each month we track the total number of patients visiting the ER (N)
- We obtain the Fixed Cost of the ER department (FC)
- We obtain the Variable Cost of the ER department (VC)
- We obtain the Other Cose of the ER department (OC)
- We calculate Total Cose (TC) – FC + VC + OC
- We track the total number of PWI visiting ER (N_{PWI})
- We obtain the total expense for PWI (TC_{PWI})
- We obtain the Reimbursable part of expense for PWI (RC_{PWI})
- We calculate the Un-Reimbursed Expense (URE) = $TC_{PWI} - RC_{PWI}$
- We calculate $URE/PWI = URE/N_{PWI}$
- We also track the top 5 reason for ER visit by all patients
- We estimate the total cost of P2P strategy per PWI ($P2PSC_{PWI}$)
- If $P2PSC_{PWI}$ less than URE/N_{PWI} then P2P strategy should be implemented

RESULTS



CONCLUSIONS

Based on the preliminary data collected by our team, it appears that a higher value of ROI is attainable for hospitals which are located in the central area of a large city where a significant percent of ER patients visit for high temperature and other non-critical symptoms.

Further, P2P healthcare payment strategy can be utilized to assist the under-insured patients who are unable to pay copay part of the bill.

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CONTACT INFORMATION

Ashoke Bose, ashbose@mlbosememorial.org

WhatsApp: +15208783600.

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