
Abstract

Process Mining is a method to collect data about business processes and to produce insight from those processes. This method can be applied to many sectors, including healthcare. One of the government's programs to provide health services for the citizens is the Indonesia Health Social Security Agency (*Badan Penyelenggara Jaminan Sosial Kesehatan/ BPJS Kesehatan*). Currently, the services provided in this program are still unsatisfying, with one main concern in the waiting time. We analyze BPJS Kesehatan data samples using Inductive Miner algorithm to mine event logs of treatment, frequent treatments and health facility usage, with a focus on respiratory disease. Initial steps were needed in preprocessing to prepare the event logs. The produced process models are then evaluated based on their fitness, precision, generalization and simplicity. Then, we replay the model toward the event logs for performance analysis. We test different types of Inductive Miner and found that the Inductive Miner Infrequent variant achieves the highest average score among other variants. We find eight treatment procedures that can be improved in term of efficiency. We also find out that the most frequently used health facility is Public Health Center, followed by First Clinic and Hospital. The results are analyzed from the perspective of previously done treatment, recurring treatment and facility usage process. Inductive Miner is a good algorithm that can produce accurate process model and allow suggestion in improving healthcare process.

Keywords: process mining, inductive miner, process discovery, conformance checking, healthcare, bpjs kesehatan
