

Sistem Deteksi Penyakit Tuberkulosis Paru Dengan Metode *Naïve Bayes* di Puskesmas Jelbuk. (*Early Detection System for Pulmonary Tuberculosis Using the Naïve Bayes Method at the Jelbuk Community Health Center.*). Bakhtiyar Hadi Prakoso, S.Kom., M.Kom (Pembimbing)

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ABSTRACT

Tuberculosis is an infectious disease that remains a health problem in Indonesia. The number of suspected tuberculosis cases at the Jelbuk Community Health Center has increased year by year, necessitating a system that can assist in early detection. This study aims to design and build a pulmonary tuberculosis detection system using the Naive Bayes method. The data used came from 228 medical records at the Jelbuk Community Health Center, and after going through the preprocessing stage, 140 data were obtained for analysis. The variables studied included coughing for more than 2 weeks, coughing up phlegm and blood, decreased appetite, weight loss, malaise, night sweats, fever, and shortness of breath. Based on the results of the cross-tabulation analysis, coughing for more than 2 weeks was the variable with the highest proportion of tuberculosis cases. Data distribution used a stratified sampling technique with a ratio of 80:20, namely 112 training data and 28 testing data. Model evaluation using a confusion matrix yielded an accuracy of 92.86%, with precision and recall for the tuberculosis class of 87.50% and 100%, respectively, and for the non-tuberculosis class of 100% and 85.71%. The results showed that the Naïve Bayes algorithm performed very well in classifying tuberculosis. Based on these results, a website-based detection system was developed using the waterfall method. Blackbox testing demonstrated that all system functions ran according to user requirements.

Keyword: *Tuberculosis, Disease Detection System, Naïve Bayes Algorithm, Waterfall*