

*Early Detection System for Toddler Pneumonia Based on Medical Records
Using C4.5 Algorithm at Jabung Health Center
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ABSTRACT

The discovery of Pneumonia cases in children under five in the working area of Jabung Health Center has not met the set targets. The number of Pneumonia cases found during 2019 – 2022 has always been below the established target of 4,45%. The purpose of this research was to design and develop an Early Detection System for Childhood Pneumonia Based on Medical Records Using the C4.5 Algorithm at Jabung Health Center. This research uses the Waterfall method and the C4.5 algorithm, with data collection techniques including interviews and documentation. The subjects of this research are the responsible officers for childhood Pneumonia and medical records. The object of this research is the medical records of toddlers diagnosed with Pneumonia and ARI. The result of this research is the Early Detection System for Toddler Pneumonia Based on Medical Records Using C4.5 Algorithm at Jabung Health Center. In the creating of the system, several stages are carried out, namely data analysis which begins with the data preprocessing stage consisting of data cleaning, data selection, data reduction, and data transformation. After that, the data mining process continues using the C4.5 algorithm with RapidMiner tools, achieving an accuracy of 97,50% in the confusion matrix. The data mining result produce 10 rules that are used for creation and development of the system using the waterfall method. System development using the waterfall method starts with requirement analysis through interviews, system design using flowchart, context diagrams, data flow diagram, and entity relationship diagrams. After that, coding with PHP programming language and testing with blackbox testing

Keywords: *C4.5, Medical Record, Pneumonia, Public Health Center*