

**Sistem Deteksi Dini *Suspect* Penyakit Kanker Payudara dengan Metode Naïve Bayes di Puskesmas Pakusari.** *Early Detection System for Suspected Breast Cancer Using the Naïve Bayes Method at Pakusari Health Center.*  
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***ABSTRACT***

*Breast cancer is one of the leading causes of death among women and remains a major public health problem in Indonesia. Community Health Centers (Puskesmas), as primary healthcare facilities, play a strategic role in early detection through the Clinical Breast Examination (CBE) program known as SADANIS. However, the implementation of SADANIS at Pakusari Health Center, Jember Regency, has not been optimal, as indicated by low screening coverage, manual and non-integrated data recording, and limited readiness of healthcare personnel. This study aims to design and develop an Early Detection System for Suspected Breast Cancer using the Naïve Bayes method based on the waterfall development model. The model was built using 147 medical record datasets classified into three classes: normal, suspected benign abnormality, and suspected malignant abnormality. Model performance was evaluated using a confusion matrix with an 80:20 training–testing split and stratified sampling technique. The results showed that the Naïve Bayes model achieved an accuracy of 96.67% with high precision and recall across all classes. Probability analysis indicated that a history of childbirth and breastfeeding was a dominant attribute in all classes. In the normal class, other influential attributes included long-term injectable hormonal contraception and normal skin and areola conditions. In the suspected benign class, influential attributes included abnormal skin, areola retraction, and breast lumps. In the suspected malignant class, influential attributes included consumption of fatty and preservative-rich foods, skin retraction, areola ulcers, abnormal nipple discharge, and breast lumps. The system was implemented as a web-based application using the Laravel framework, and black-box testing confirmed that all system functions operated according to user requirements.*

**Keywords:** *Breast Cancer, SADANIS, Early Detection System, Classification, Naïve Bayes*