

# Abstract

The occurrence of spreading of fake vaccines in Indonesia in mid-2016 is a bad event that makes the safety of vaccine distribution flow questioned. The distribution flow is regulated by PT. Bio Farma. In this final project the author to verify the flow of vaccine distribution in Indonesia using a formal method approach, namely Linear Temporal Logic.

The vaccine distribution flow is first modeled in the activity diagram. Then the activity diagram is verified against the requirements set by BPOM (Food and Drug Supervisory Agency) and WHO (World Health Organization). Verification is done with NuSMV checker model. From this thesis, the authors conclude the flow of vaccine distribution in Indonesia proved to be formally safe against some security requirements regulated by BPOM and WHO. However, the distribution flow can not specifically guarantee some specified security requirements and some additional functional requirements.

**Keywords:** Vaccine, formal method, Linear Temporal Logic, NuSMV.