

## Diphtheria epidemiology in Indonesia during 2010-2017

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### Abstrak

#### <b>ABSTRACT</b><br>

Background: in recent years, diphtheria has reemerged in several countries including Venezuela, Yemen, Bangladesh, and Haiti. Similarly, Indonesia also showed an increased number of diphtheria cases in 2010-2017 despite the Diphtheria, Tetanus, Pertussis (DTP) immunization program applied in Indonesia for children. This study aimed to evaluate the epidemiology of diphtheria cases which occurred in Indonesia during 2010-2017. Methods: this was a retrospective study of diphtheria cases in Indonesia. The following source of data about diphtheria disease burden and vaccine coverage was obtained from Ministry of Health Republic of Indonesia, Indonesian Pediatric Society and World Health Organization South East Asia Regional Office. Results: the number of diphtheria cases in Indonesia were distributed across 30 provinces with a total of 811 cases in 2011; 1,192 cases in 2012; 296 cases in 2014; and 939 cases in 2017. Based on age group, the highest number of case fatality rate were in age group of 5-9 years old. Diphtheria immunization coverage in Indonesia among children was fluctuated, reported as 67.7 % in 2007, 61.9 % in 2010, 75.6% in 2013 and 61.3% in 2018. In addition to that, the organization of internal medicine has recommend booster of DPT immunization every 10 years for those children that had received complete DPT vaccination during childhood, however this was not applied. As the countermeasure towards this trend, the Ministry of Health implemented three rounds of Outbreak Response Immunization (ORI) targeted for the age group of 0-1-6 months old and 1-18 years old in 2017 and tailor approached for adults that had exposed to cases. Banten, DKI Jakarta and West Java were the first three provinces to implement this program considering their condensed population and high risk of disease transmission. Conclusion: in Indonesia, there was dramatic increase of diphtheria case in 2010-2017, where immunization in children should be reinforced by increasing coverage more than 95% and adult boosted vaccination approaches should be initiated to prevent the spread of these fatal diphtheria diseases in Indonesia.