

Prevalence and factors associated with zero-dose status of DPT1 vaccine among children aged 12-23 months in Uganda, 2024

Pauline Achom^{1,*}, Sharon Namasambi¹, Nasif Matovu¹, Vianney Kigongo¹, Brian Boneventure Kawere², Daniel Kiiza², Duncan Matovu², Deogratious Migadde³, Yasiini Nuwamanya¹, Benon Kwesiga¹, Richard Migisha¹, Daniel Kadobera⁴, Alex Rioplexus Ario¹

¹Uganda Public Health Fellowship Program, Uganda National Institute of Public Health, Kampala, Uganda, ²Infectious Disease Institute, Makerere University, ³Ministry of Health, Kampala Uganda, ⁴Division of Global Health Protection, US Centers for Disease Control and Prevention, Kampala, Uganda

***Corresponding author:** Pauline Achom, Uganda Public Health Fellowship Program **Email:** achompauline@uniph.go.ug

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Introduction

GAVI defines zero-dose children as those who have not received Diphtheria-Pertussis-Tetanus1 (DPT1), which represents a gap in immunisation programs and a marker of inequity in access to essential health services. In Uganda, while DPT1 coverage exceeds 90%, there are regional variations due to health system factors, leaving pockets of unvaccinated children and posing an increased risk of outbreaks. We determined the prevalence and factors associated with zero-dose status among children aged 12–23 months in Uganda.

Methods

We conducted a cross-sectional household survey in all 15 regions of Uganda. We sampled 2,254 children aged 12–23 months using multi-stage cluster sampling. Data were collected through caregiver interviews using a standard questionnaire and review of vaccination cards. Weighted prevalence estimates were calculated. Multivariable logistic regression was applied to assess factors associated with zero-dose status among the children.

Results

The overall prevalence of zero-dose status was 9.1%. The highest zero-dose prevalence was observed in South Central (17%) and Bunyoro (17%), while the lowest was in Acholi (3.9%) and Kigezi (2%). The factors significantly associated with zero-dose status included absence of information on the next appointment (aOR=18, p<0.001), lack of trust in vaccines (aOR=7.1, p=0.013), having above secondary education (aOR=6.6, p=0.012) and unfavourable family norms (aOR=3.5, p<0.001).

Conclusion

Despite overall high national coverage, nearly 1 in 10 Ugandan children aged 12–23 months remain unvaccinated with DPT1, with substantial regional disparities. Zero-dose status is driven by a combination of caregiver characteristics, social norms, and systemic barriers. We recommend strengthening community engagement by leveraging VHTs and local leaders to create awareness and reminders on next appointments through media platforms. Promoting the use of immunization champions to build caregiver trust in

vaccines and celebrating positive societal practices on immunisation to achieve equitable coverage.

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