

“CHILD MORTALITY (12-59 MONTHS)” DOES VACCINATION STATUS MATTER: A CASE STUDY OF DANGME WEST DISTRICT OF GHANA



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Outline

- ❖ Background
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- ❖ The Study Area
- ❖ Method
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- ❖ Conclusion and Recommendation



Background

- ✓ Childhood vaccination guards not only against a particular disease but can also provide a wide range of health benefits
 - Fonseca et al. 1996; Anderson RM 1992
- ✓ Receiving full vaccination has a rate of about 18% return on investment on human capital
 - Bloom, Canning and Weston(2005)



Background – contd.

- ✓ Vaccination is a cost effective way to improve child health particularly for poor households

-Brenzel et al 2006

- ✓ Research in Ghana has shown that Vaccination reduces child mortality

-Nyarko et al 2001



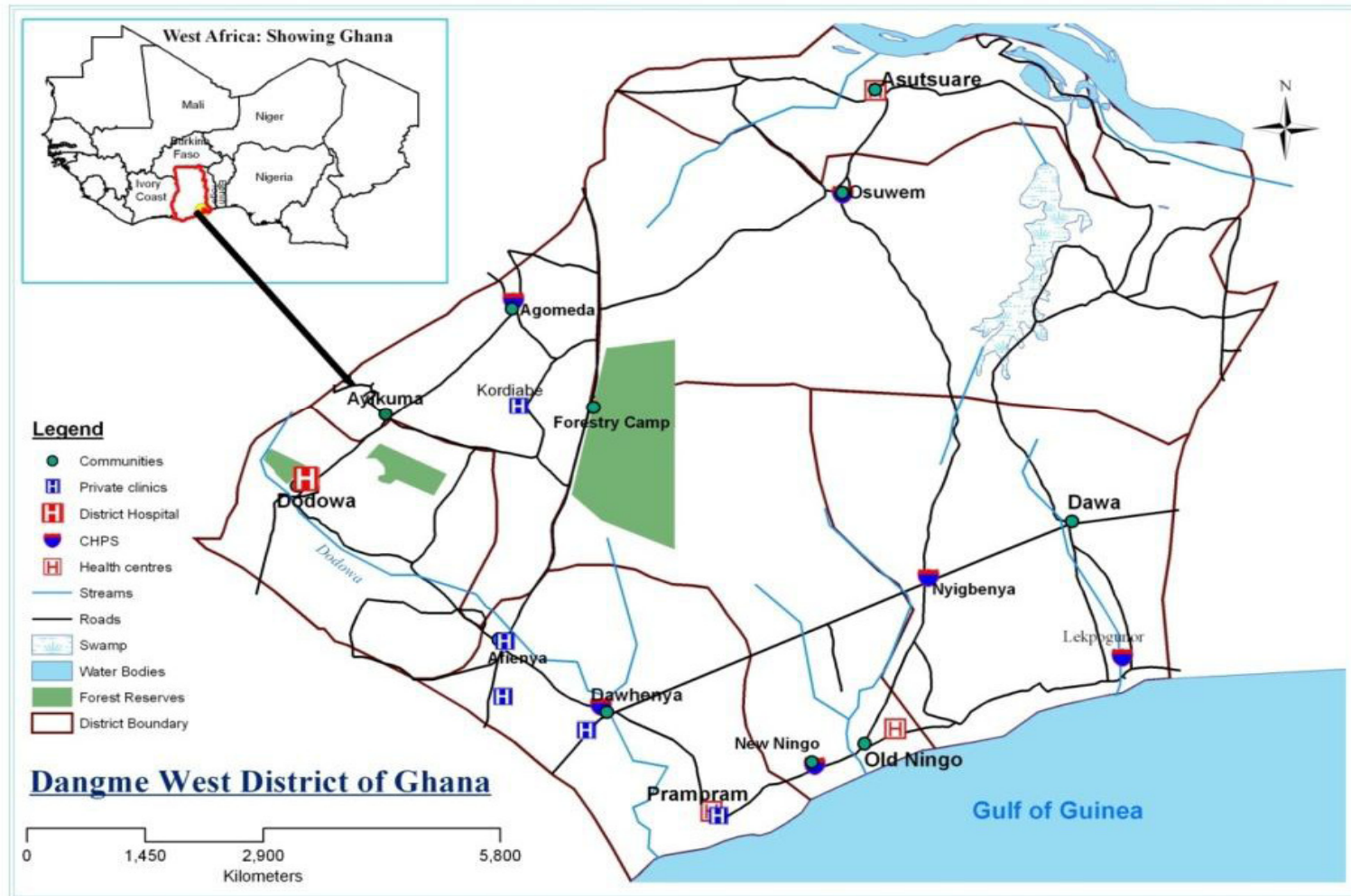
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Objective

To assess the effect of vaccination of children aged 12 to 59 months on under-five mortality.



The study area



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The study area – contd.

- Initial census was in 2005 and actual round updates began in 2006
- As part of the updates, information on the vaccination status of children under-two years are obtained every six months.
 - BCG
 - Polio (0,1,2,3)
 - DPT/Pentavalent (1,2,3)
 - Measles
 - Yellow fever



The study area – contd.

- Other updates information are

- Birth and Death registrations, Migration, Education and Household's socio-economic status



Method I

- The study population for analysis consisted of 5,575 children aged 12-59 months born between 2005 and 2009 whose vaccination status information were obtained from a health card.
- Health card information were obtained on children by HDSS Field Workers during their routine updates



Method II

Operational definition

- Fully immunized : Any child who received all the basic vaccines- BCG, Polio vaccine (excluding Polio given at birth), DPT(1,2,3), and Measles
 - GDHS 2008
- Partially Immunized : Was any child who received either BCG, Polio (1, 2, 3) ,DPT(1, 2, 3) or Measles(did not receive all the basic vaccines).



Method III

➤ Inclusion criterion:

Received Vaccination and Health Cards Available with records

➤ Exclusion criteria :

a) Children under 12 months and over 59 months of age

b) Received Vaccination and Health Cards Available without records

c) Received Vaccination and Health card NOT Available

d) Never Received any Vaccination



Method IV

- Descriptive analysis was used to assess various type of vaccinations
- Univariate and Multivariate logistic regression analysis were also used to investigate the predictors of child mortality
- Exposures of interest: Vaccination status of child(Main exposure), Sex and age of child, Wealth index, Mother's Year(s) of completed schooling, Mother's age, Place of delivery, Ethnicity and Subdistricts.



Results

	Children death n(%)	Children Alive n(%)
‡ Received Vaccination and Health Cards Available with records	80(70.8)	5495(70.3)
Received Vaccination and Health Cards Available WITHOUT records	3(2.7)	184(2.4)
Received Vaccination and Health card NOT Available	27(23.8)	2033(26.0)
Never Received any Vaccination	3(2.7)	102(1.3)
TOTAL	113(100.0)	7814(100.0)

‡ Inclusion criteria



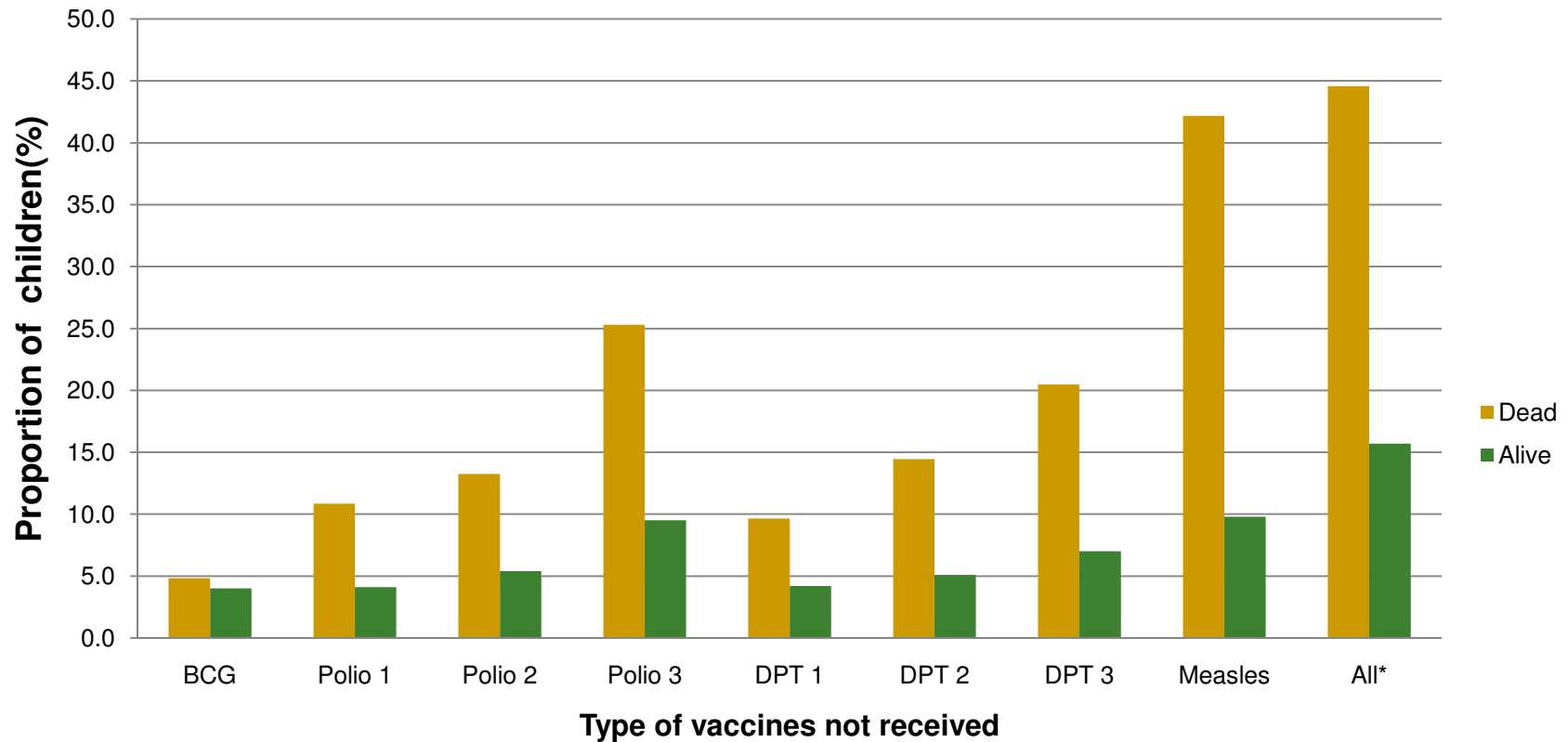
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Results – contd

Vaccination	Children death n(%)	Children Alive n(%)
<i>Received 1 vaccine</i>	5(6.3)	17(0.3)
<i>Received 2 vaccines</i>	1(1.3)	12(0.2)
<i>Received 3 vaccines</i>	2(2.5)	38(0.7)
<i>Received 4 vaccines</i>	0(0.0)	32(0.6)
<i>Received 5 vaccines</i>	7(8.8)	71(1.3)
<i>Received 6 vaccines</i>	2(2.5)	82(1.5)
<i>Received 7 vaccines</i>	17(21.3)	465(8.5)
Partially immunized	34 (42.5)	707 (12.9)
Fully immunized	46 (57.5)	4788 (87.1)
Total	80(100.0)	5495(100.0)



Proportion of children born between 2005-2009, who did not receive a particular type of Vaccine(s)



*Excludes Polio at birth and YF



Univariate analysis of risk factors associated with mortality among children aged 12-59 months in Dangme West District

Risk factors		OR(95% CI)
Vaccination:	Fully immunized	1
	Partially immunized	4.3(2.79 – 6.70)
Sex :	Female	1
	Male	1.8(1.14 – 2.82)
Age Group:	12 - 23 months	1
	24 - 35 months	1.4(0.84 – 2.20)
	36 - 47 months	0.8(0.38 – 1.74)
	48 - 59 months	5.8(1.22 – 15.16)
Wealth Index:	Poor	1
	Intermediate	0.8(0.45 – 1.32)
	Rich	0.6(0.25 – 0.)
Years of completed schooling(Mother)		0.94(0.89-0.99)



Abbreviations: OR=Crude odds ratio; CI=Confidence interval

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Multivariate analysis of risk factors associated with mortality among children aged 12-59 months in Dangme West District

Risk factors		AOR(95% CI)
Vaccination:	Fully immunized	1
	Partially immunized	5.7(3.47 – 9.53)
Sex :	Female	1
	Male	1.7(1.00 – 2.85)
Age Group:	12 - 23 months	1
	24 - 35 months	1.5(0.83 – 2.56)
	36 - 47 months	1.2(0.48 – 2.85)
	48 - 59 months	5.4(1.50 – 19.44)
Wealth Index:	Poor	1
	Intermediate	0.8(0.45 – 1.47)
	Rich	0.6(0.32 – 1.27)
Years of completed schooling(Mother)		0.96(0.90-1.03)



Abbreviations: AOR=Adjusted odds ratio; CI=Confidence interval

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Conclusion

- The findings show that children who were partially immunized were more at risk of dying than those who were fully immunized.
- Males children were more likely to die as compared to females children



Recommendation

- Regular Outreach programme should be intensified
 - Intensify education on complete immunization
 - Further research ought to be conducted in the following areas:
 - ❑ To find out from the parents/caregivers why some children do not complete their vaccination
 - ❑ To determine whether children receive the vaccines but do not have it recorded in the health card.
- and this will help the health policy planners know the exact strategy to use to sensitize the public in order to meet the vaccination coverage.
- Parents or caregivers need to be sensitized about the importance of keeping health record cards.



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Thank You!



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