MOMENT OF PAUSE: EXAMINING THE DETERMINANTS OF ADVERSE PERINATAL OUTCOME IN RURAL DANGME WEST DISTRICT

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Outline

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Background I

❖ The death of an infant in utero or at birth is always a painful experience for the woman but to loose a baby is more traumatizing.

❖ Information on the causes of child deaths is crucial for policy.

❖ Globally, 3 million babies die in the first seven days of life (early neonatal period), more than 3.3 million babies are stillborn and one in three of these deaths occur during delivery. WHO 2005

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Background II

❖ 75% of deaths in children occur within the first 7 days of birth of which 40% is within 24 hours of life.

❖ These deaths cause 60% of infant deaths and 40% of all under - five deaths.

GDHS 2010

❖ Despite increased recognition for neonatal and child survival, perinatal deaths is yet to receive visibility and investment.

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Objective

To explore risk factors associated with perinatal mortality in rural Dangme West District of Ghana.

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Study area

- DWD is in the Greater Accra region in the southern cost of Ghana. The area has four sub-districts and seven area councils.

- There are a total of 21 health facilities delivering services in the district. They comprise :
    - 1 hospital
    - 4 Health Centres
    - 6 Clinics
    - 10 CHPS compounds
    - 1 Mat. Home
- There are also 150 0utreach sites run by community health and public health nurses

Dangme West District of Ghana
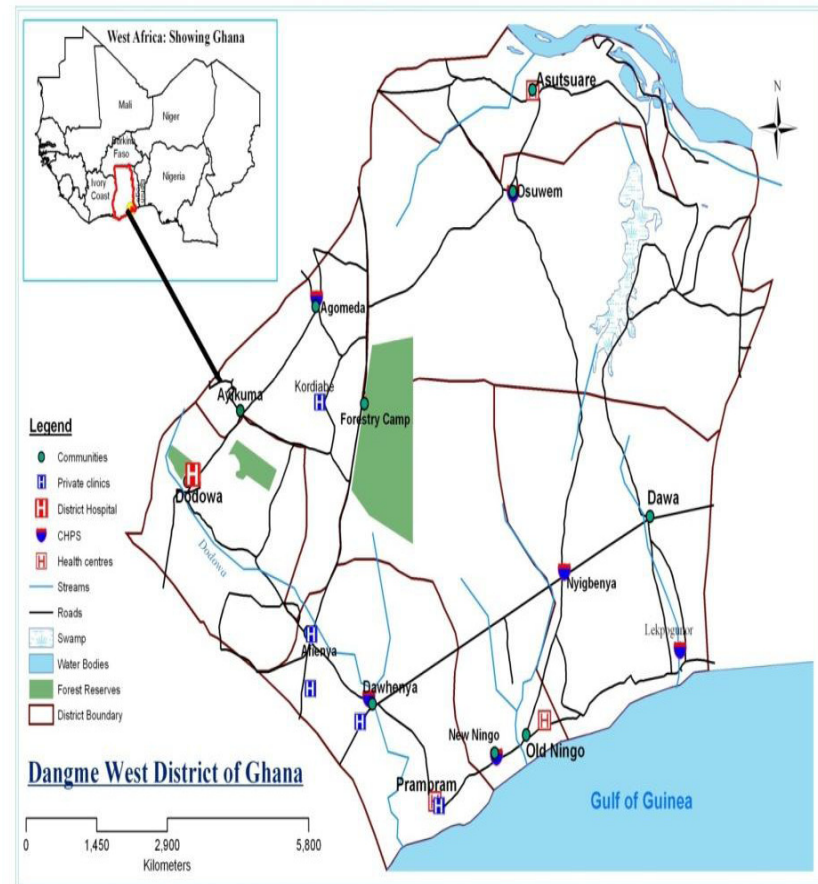
Place of Delivery by Year, DHDSS 2006-2010

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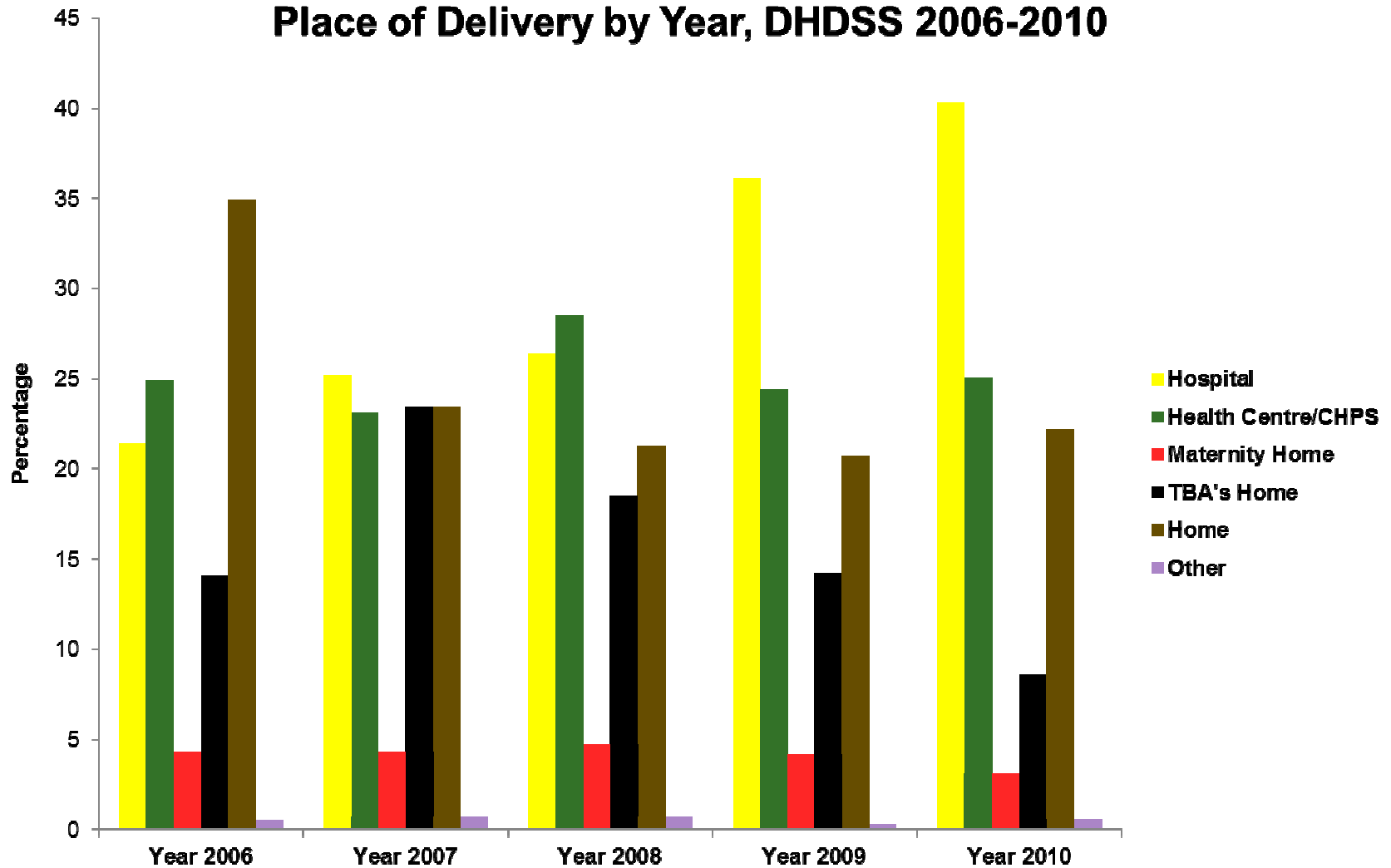
METHOD I

❖ Data abstraction - DHDSS pregnancy registration, pregnancy outcome and birth registration forms for 2006-2010

❖ Initial census was in 2005 and actual round updates began in 2006

❖ As part of the updates vital Events:- pregnancies, births, deaths, marriage are collected bi-annually and socioeconomic status yearly

❖ Data collection and storage: data is collected in questionnaires and storage is in HRS2

❖ Data analysis: The analysis was performed with STATA 10 software

❖ Measure of frequency: prevalence

❖ Measures of exposure effect: Odds ratio

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Method II

- ❖ 12,515 Women living in Dangme west district who were pregnant between 2006-2010 were used in the analysis.

- ❖ Outcome of interest: perinatal mortality (still births and early neonatal death)

- ❖ Exposures of interest: Age, Education, Wealth status, ANC attendance, IPTp, ITNs used and place of delivery.

- ❖ Descriptive analysis was used to estimate the number of live births, stillbirths and the early neonatal deaths for 2006-2010

- ❖ Univariate and Multivariate logistic regression analysis was used to investigate the risk factors associated with perinatal mortality.

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Results I

❖ 12,515 pregnancy outcomes was registered for the period.

❖ 12,339 (98.6%) were live births

❖ Stillbirth was 176 (1.4%)

❖ Out of the total live births 61 died within the first week and 36 (59%) of these deaths occurred in the first day life.

❖ This gives a negative perinatal outcome of 237

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Perinatal Mortality Ratio by Year

Year	Live Births	Mortality Ratio/1000 live births
2006	2227	13
2007	2511	25
2008	2751	25.4
2009	2461	18
2010	2480	13

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Univariate analysis of risk factors

Factor	OR (95% CI)	P-Value
ANC Yes No	1 1.614 (1.183-2.202)	 0.003
IPT Received Not Received	1 2.030 (1.511-2.728)	 <0.001
ITN Use Used Not Used	1 1.433 (1.009-2.034)	 <0.001
Age 12-19 20-30 31-34 35-49	1 1.170(0.725-1.887) 1.372 (0.770-2.443) 2.137 (1.260-3.624)	 0.520 0.283 0.005
Place of Delivery Non Health Facility Health Facility	1 8.379 (4.923)	 <0.001

Abbreviations: OR=Odds ratio; CI=Confidence interval

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Univariate analysis cont….

Factor	OR (95%CI)	P-Value
Wealth Index		
Lower quintile	1	
Middle quintile	1.5 (0.98-2.27)	0.60
Upper quintile	1.7 (1.12-2.54)	0.012
Occupation		
Unemployed	1	
Farmer / Fisherman	1.032 (0.671-1.586)	0.884
Artisan	1.231 (0.713-2.124)	0.454
Trader	1.316 (0.858-2.019)	0.207
Civil Servant	1.806 (0.533-6.118)	0.342
Student	1.012 (0.533-1.851)	0.967
Education		
No education	1	
JSS/ middle	1.452 (1.082-1.949)	0.013
SSSCE/ O & A level	0.921 (0.422-2.009)	0.838
Tertiary	1.955(0.457-8.348)	0.356
Martial Status		
Single	1	
Married	1.451(1.011-2.081)	0.043
Living together	0.532 (0.128-2.204)	0.385
Divorced/Separated	0.941 (0.657-1.348)	0.742

Abbreviations: OR=Odds ratio; CI=Confidence interval

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Multivariate analysis of risk factors associated with perinatal outcome

Factor	Adjusted OR(95% CI)	P-Value
Intermittent Preventive Treatment(IPT)		
Received	1	
Not Received	2.171(1.529-3.082)	<0.001
Age		
12-19	1	
20-30	1.245 (0.738-2.100)	0.411
31-34	1.447 (0.775-2.701)	0.245
35-49	2.099 (1.174-3.755)	0.012
Place of delivery		
Hospital	1	
Health Centre	2.811 (1.772-4.461)	<0.001
Maternity Homes	17.184 (10.509-28.098)	<0.001
Traditional birth attendants	0.110 (0.025-0.468)	0.003
Home	0.457 (0.226-0.924)	0.029

Abbreviations: OR=Odds ratio; CI=Confidence interval

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Multivariate analysis of risk factors associated with perinatal outcome

Factor	Adjusted OR(95% CI)	P-Value

ANC
    Yes
    No
	1
	1.260 (0.859-1.847)
		0.235

Wealth Index
    Lower quintile
    Middle quintile
    Upper quintile
	1
	1.118 (0.782-1.598)
	1.331 (0.937-1.892)
		0.538
		0.110

abreviations: OR=Odds ratio; CI=Confidence interval

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Conclusion

❖ There is trend of reduction of perinatal deaths in the period of study in the district.

❖ A majority of perinatal deaths were stillbirths. Most early neonatal deaths occurred during the first 24 hours after delivery.

❖ Women in the upper quintile, the elderly, those who did not receive IPT and health facility deliveries were more at risk to have a negative outcome of their pregnancies.

❖ It would be impossible to achieve Millennium Development goal of reducing child mortality by two thirds by 2015 without reducing perinatal deaths.

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Recommendations

❖ An investigation into the challenges associated with health centre deliveries

❖ District health managers must make neonatal resuscitation equipment and drugs available in all health facilities.

❖ The community based health planning services should be equipped with midwives.

❖ Just like maternal mortality audits, neonatal mortality audits should be part of health facility priority.

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Thank You!

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