



Factors Associated with Childhood Mortality in the DR Congo from the Demographic and Health Survey-2014



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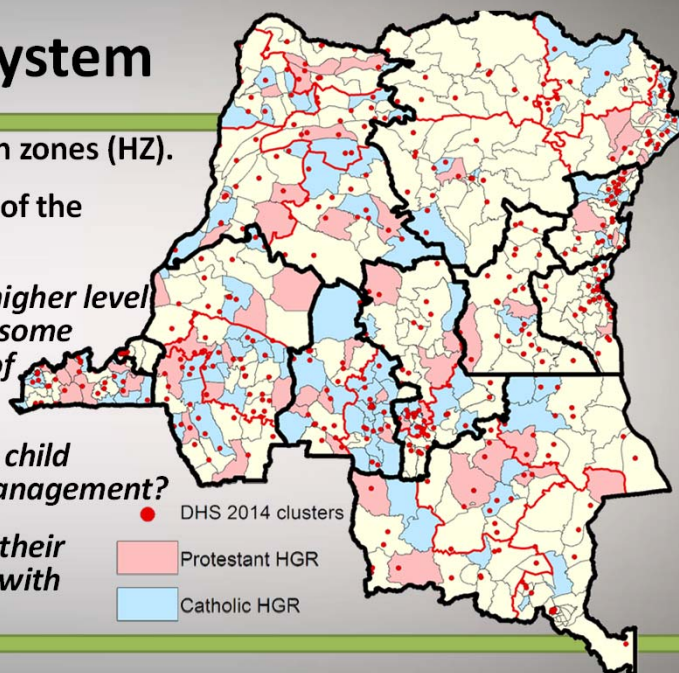
Background

- ❖ According to UNICEF, the DR Congo has the 8th highest Under-Five Mortality Rate at 119/1,000.
- ❖ In 2014, a Demographic and Health Survey (DHS) was completed in DRC.
- ❖ Only 8 publications exist on PUBMED from the 2007 DHS data and none from 2014.
- ❖ There is much greater use of DHS data in other countries.
- ❖ In this analysis we review factors associated with under-five mortality rates from the 2014 DHS survey.



DRC's Health Zone System

- DRC's health system includes 516 health zones (HZ).
- Church-owned hospitals comprise 34% of the reference hospitals for those HZs.
- *Church hospitals generally maintain a higher level of functionality than state hospitals. In some provinces they alone offer health care of appreciable quality. (PNDS 2011-2015)*
- *Might DHIS surveys demonstrate lower child mortality in HZs where this is church management?*
- *We matched DHS 2014 data clusters to their respective HZs and then compared HZs with and without a church-owned HGR.*



Hypothesis

There will be a clinically relevant and statistically significant association between childhood mortality for health zones with a church-owned reference hospital (aka FBO HZ management). At the same time the analysis also considered associations for the following:

- Gender
- Year of birth
- Parity
- Rural/urban
- Maternal BMI
- Province
- Bed net use
- Wealth index
- Number of wives in the family



Methods

- DHS 2014 data was used along DHS guidelines for weighting to construct a logistic regression model with death by five-years-olds as the outcome variable and the previously-mentioned independent factors. STATA 11.1 (StataCorp) was used.
- Individual Kaplan Meier Survival curves were used for exploration.
- Children with a current age of <60 months at the time of the interview were included.



Results and Statistical Significance

Results that were statistically significant:

- Parity (OR1.56, $p=0.008$)
- Provinces
 - Bandundu (0.25, $p=0.007$)
 - Equateur (OR=0.23, $p=0.004$)
 - Kasai-Oriental (OR=0.33, $p=0.041$)
 - Nord-Kivu Province (OR=0.28, $p=0.027$)
 - Sud-Kivu (OR=0.056, $p=0.015$)
- DHS Wealth Index (OR=.056, $p=0.002$)
- Maternal age (OR/year=1.03, $p=0.013$)

Results trending toward significance:

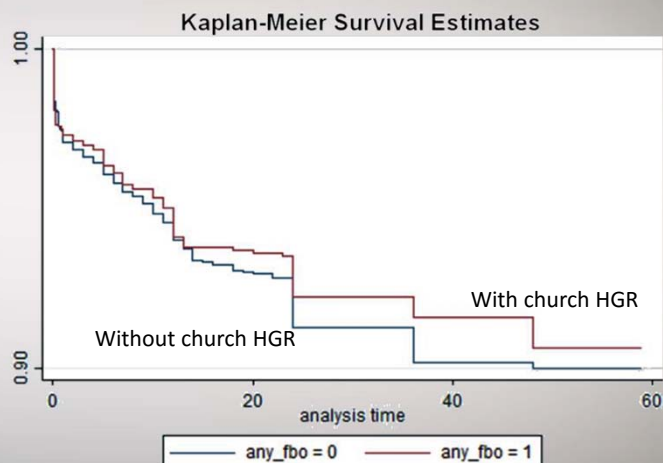
- Gender (OR=0.79)
- FBO HZ management (OR=0.79)
- Urban/Rural (OR=0.83)
- Year of birth (OR=1.33)
- Bed net use (OR=0.77)
- Number of wives (OR=1.26)
- Maternal BMI (OR/unit=1.03)



The Kaplan-Meier Survival curve for Childhood Mortality in health zones with and without a church-owned hospital.

Log-rank test for equality of survivor functions		
any_fbo	Events observed	Events expected
0	203	195.41
1	111	118.59
Total	314	314.00
	chi2(1) =	0.79
	Pr>chi2 =	0.3755

The P-Value approaches, but does not reach, significance



Discussion

- Parity is predictive of higher mortality.
- Several provinces perform better than the index province of Kinshasa.
- Wealth Index and maternal age have strong associations with mortality.
- FBO co-management status, gender, bed net use, and urban/rural status all had strong associations, but were not statistically significant.
- Further research using other DHS datasets (e.g., 2007) is recommended.
- We should continue to evaluate predictors of childhood mortality and modify health delivery strategies accordingly.

