

A Study on the Relationship between Health Insurance and Facility Births in
Tanzania

By

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Preface and Acknowledgements

This thesis was born from my interest in gaining a broader understanding of the healthcare system in Tanzania and how women access maternal healthcare. As a graduate student training for two degrees simultaneously, Master's in Public Health and a Ph.D. in Anthropology, I wanted to challenge myself to conduct research that honed my quantitative skills and further my understanding of maternal health landscape in Tanzania. I became interested in insurance after having many conversations with doctors working on maternity wards in hospitals and health centers in Tanzania explaining that insurance provided pregnant women with more financial security, ensuring that the entirety of the delivery experience was free compared to other women without insurance, who often had to pay for medical supplies or medications needed. These conversations inspired me to start researching more about insurance rates and utilization in Tanzania, spotting a gap in the literature connecting insurance and biomedical facility births. This research would not have been possible without the support and guidance of so many people which I will detail below.

I am extremely grateful to Dr. Nicola Bulled and Dr. Jennifer Pellowski for their instruction and guidance throughout PHP 2740: Learning Global Health by Doing Global Health. I would not have been able to work through all the intricacies of my thesis proposal without the space they provided. This research would not have been possible without Dr. Annie Gjelsvik, Dr. Crystal Linkletter, and Dr. Anarina Murillo, who taught me biostatistics over the course of one year. I am also extremely grateful for the mentorship of Dr. Siraj Amanullah, my biostatistics small group leader, as he provided me with space to apply the concepts I learned in biostatistics and gave feedback on how to improve my analysis. I would also like to thank Dr. Abbigal Harrison, who taught my last global health course at Brown PHP 2760: Critical Perspectives in

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This thesis project and my completion of the MPH would not be possible without the generous support of the Open Graduate Education Program at the Graduate School which has provided me with the support to pursue an additional master's degree simultaneously with my doctoral degree. Thank you to my committee in the Department of Anthropology for supporting me in my decision to pursue this additional degree. Finally, all this would not have been possible without the continued support of my family, for them I am extremely grateful.

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Introduction

To combat inequitable access to healthcare in Tanzania, President Samia Hassan signed the Tanzania Universal Healthcare Act (2023) that requires all citizens to have health insurance.¹ This new law is the result of a global push to provide universal healthcare. Prior to this act the last effort to increase access to health insurance specifically targeted rural populations by revamping the Community Health Fund (iCHF) which operates by collecting a small fee from each community member to create a large fund to offset healthcare costs.² Currently Tanzania has extremely low insurance coverage with an estimated 15.3% of the population covered, leading many families to pay for healthcare services out of pocket including pregnancy and delivery services despite knowing it is supposed to be free at government-run health facilities.^{1,3,4}

In Tanzania specifically, it remains unclear to what extent insurance can improve accessibility to quality care for mothers, especially since maternal healthcare is supposed to be free already.^{4,5} Many researchers have found that insurance can significantly improve utilization of antenatal care and improve health outcomes for infants, but it is unclear if insurance will ultimately benefit women living in rural areas of Tanzania.^{6,7} This period of transition is the perfect time to conduct research studies to understand how insurance impacts utilization of biomedical facilities in Tanzania. To fully assess the impact of the new law requiring insurance, the impact of insurance utilization among women in Tanzania must be understood.⁸

Study Purpose and Hypothesis

The purpose of this study is to examine the association between health insurance and delivering in a biomedical facility among women in Tanzania. I hypothesize that women, aged 15-49, that have insurance are more likely to give birth in a biomedical health facility compared to those that do not have insurance.

Methods

Description of Data

I am analyzing data from the Demographic and Health Surveys from Tanzania from the years 2015-2016 and 2022.^{9,10} The data was collected with the objective of collecting reliable information on the health and socioeconomic status of the population. I applied to use the DHS data set and was approved. It is important to note that questionnaires are filled out by field workers in English, yet the survey is typically verbally done in Swahili and then translated. In the 2015-16 DHS 608 geographic clusters were identified with 22 households from each, to end with a sample of 13,376 households. The total number of women interviewed in 2015-16 is 13,266. In the 2022 DHS 629 clusters are identified, and 26 households are chosen from each cluster resulting in a total of 16,354 households selected for participation. For 2022 the total sample size interviewed is 15,705 households and 15,254 women aged 15-49 years old. Population data is weighted.

Analytic Sample

I found my analytic sample by merging the Birth Recode dataset with the Women's Individual Survey record that includes data collected through the Women's Survey and Household Surveys.¹¹ The 2015-16 Birth Recode data set included 13, 266 women which were asked about their pregnancy history. The 2022 Birth Recode data set included 15, 254 women's pregnancy history within the last three years at the time of the survey. I used two survey questions, "Are you covered by health insurance?" and "What type of health insurance are you covered by?", that were asked in both the Women's Survey and the Household Survey to assess health insurance status. Utilization of biomedical facilities was assessed using the question "Where did you give birth?" to determine how many individuals would be eligible for analysis.

Of the total 13,266 women from 2015-16, 11,245 women were not eligible because they did not give birth within the last year. The total analytical sample is 2,021 women giving birth (Figure 1). Of the 15,266 women from 2022 12,882 were deemed ineligible to participate because they did not give birth within the last year. I excluded 245 from the analytic sample because they had missing information or were a duplicate record. The final analytic sample consisted of 2,217 women that had given birth (Figure 2).

Figure 1: Inclusion and Exclusion for Analytic Sample of 2015-2016

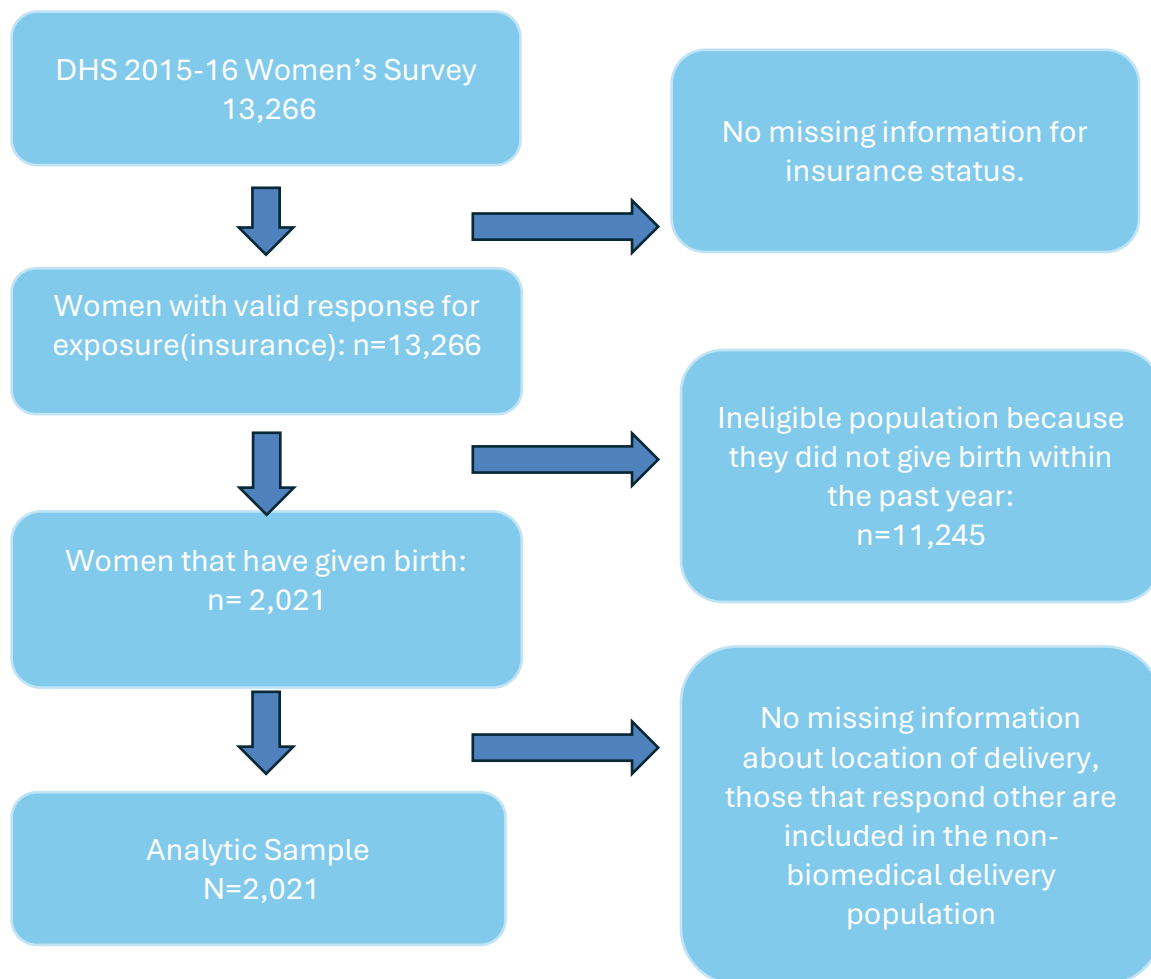
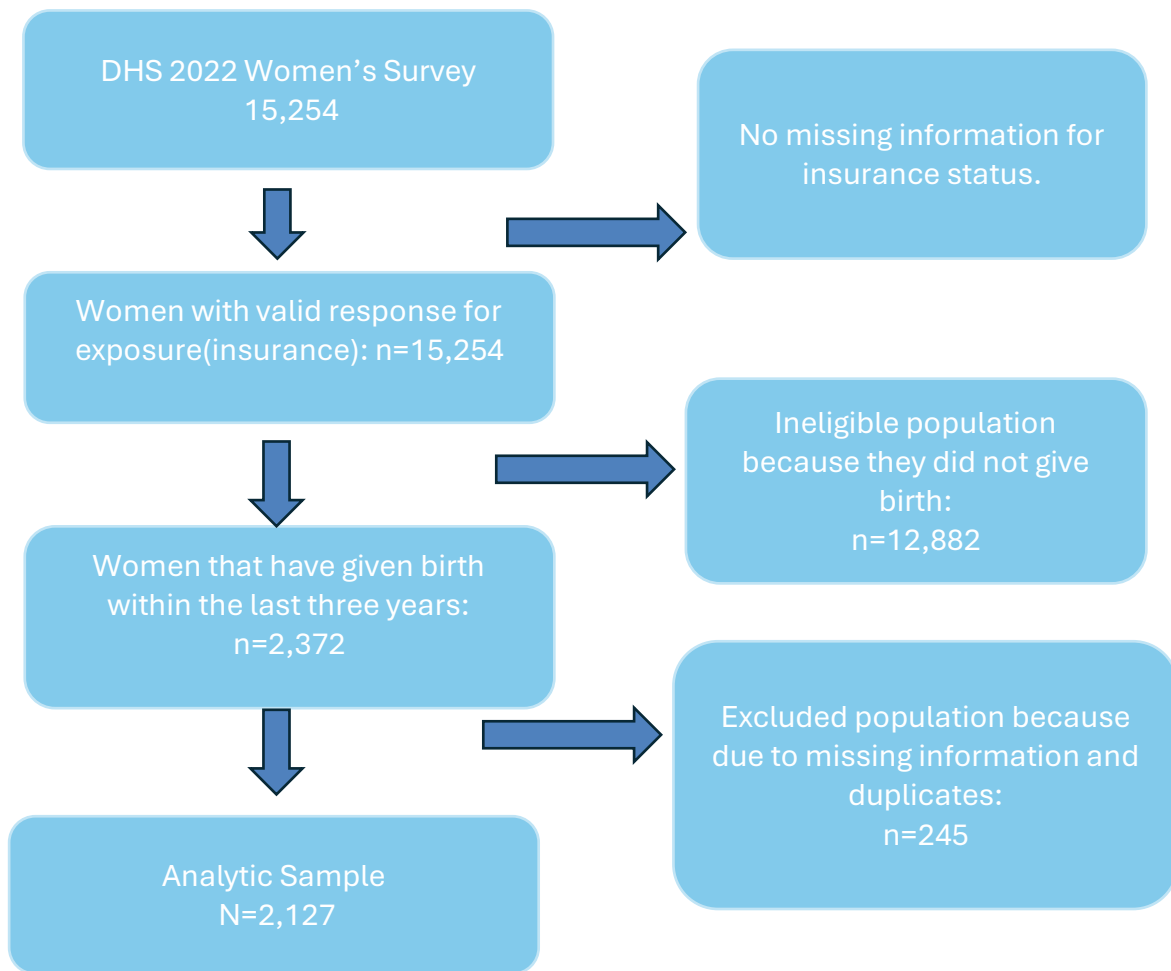


Figure 2: Inclusion and Exclusion for Analytic Sample of 2022



Insurance Status

The main exposure of this study is whether women, aged 15-49, in Tanzania have insurance or not. Exposure of insurance was assessed through the two-part question on insurance in the Women's Survey: Do you have insurance? If yes, what type of insurance are you covered by?". All women answered this question so there is no invalid data. There are 10 types of insurance listed and the option of "other". Among the women that had insurance only four categories received a response: NHIF, NSSF, AAR, and others. Due to low numbers of women

being covered by insurance (n=134 in 2015-16 and n=90 in 2022) I decided to analyze the exposure as a categorical variable of having insurance or not.

Delivering in Biomedical Facility

The utilization of a biomedical facility to give birth among women aged 15-49 is the outcome of interest for this study. Delivery in a biomedical facility was assessed using the survey question, “Where did you give birth?” in which respondents had the ability to choose from twenty-five options including every type of health facility that operates in Tanzania currently. I created a categorical variable collapsing all categories for health facilities into “yes” and those that answered, “respondents’ home,” “other home,” “tba premises,” and “on way to hospital,” as “no.” Those participants who responded “other” were excluded from the study. *Demographics*

The DHS collects basic demographic information from all participants including age, financial, education, and marital status. I chose to utilize these variables to better explain my analytic sample. For age I utilized the categorical variable already programmed into the dataset that separated women ages 15-49 years old into seven categories (15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49). Education level obtained is made up of four different categories representing the highest level of schooling completed. The four categories include no education, primary school, secondary school, and higher education. Higher education encompasses anyone who completed some of a degree, certificate, and/or graduate school. In lieu of assessing income of the participants, I used the question, “Do you have an account in a bank or other financial institution that you yourself use?” to see if participants had access to funds that would allow them to pay for healthcare services and be enrolled in insurance. Possessing a bank account is a binary categorical variable with the response “yes” or “no”. The last demographic variable I used to provide more information about participants is marital status or more generally the status of a

women's relationship. Previous studies show that relationship status is an important factor to consider when looking at the relationship between insurance and delivering in a health facility.^{12,13} Marital status comprises six categories including never in union, married, living with partner, widowed, divorced, and separated/no longer living with partner.

Potential Cofounders

Potential confounders for this study include attending antenatal clinics at least once and travel time to the nearest health facility. Attending an antenatal clinic may be a cofounder because if women seek care during pregnancy at a health facility, they might be more inclined to deliver in a health facility.^{12,13} Antenatal clinic attendance was determined using the following question in the Women's survey: How many times did you receive antenatal care during this pregnancy?". In this case I coded antenatal care into four categories: those that did not attend any antenatal appointments, those with one to three visits, four visits, and five or more visits. In Tanzania four antenatal care visits are considered routine care.

Statistical Analysis

I used STATA Version 18.0 to analyze data collected from DHS 2015-16 and DHS 2022.¹⁴ I weighted the data and accounted for complex survey design with the formula provided by the DHS to ensure results are nationally representative (DHS 2021). The DHS collects basic demographic information from all participants including age, financial status, education, and marital status. I chose to utilize these variables to better explain my analytic sample. I report weighted observations for insurance status and delivery in biomedical facilities, in addition to covariates in a table. In a second table I present the results from the logistic regression analysis of the relationship between insurance status and delivery in a biomedical facility adjusted for confounders. Three different logistic regressions are produced: unadjusted, adjusted, and

adjusted for confounders. The unadjusted regression shows the odds ratio for delivering in a biomedical facility for each variable, including the exposure. The adjusted model is a multivariate logistic regression that accounts for each of the variables from Table 1 making the exposure not significant. The variable for education attainment and possessing a bank account had very high t-values and are highly correlated with insurance status. When education and bank account are removed from the logistic regression to adjust for confounders the odds ratio for the exposure, insurance, is significant.

Table 1.1: Description of women who gave birth by insurance status: 2015-16 DHS

	No Insurance 93.37% (n=1887) Weighted % (n)	Yes Insurance 6.63% (n=134) Weighted % (n)
Delivery in Health Facility		
No	37% (710)	20% (26)
Yes	63% (1177)	80% (108)
Age		
15-19	17% (282)	11% (10)
20-24	28% (542)	18% (31)
25-29	22% (422)	24% (33)
30-34	16% (317)	18% (22)
35-39	11% (205)	22% (28)
40-44	5.2% (98)	6.7% (9)
45-49	<1% (21)	<1% (1)
Education level:		
No Education	20% (385)	11% (12)
Incomplete Primary	13% (253)	11% (11)
Complete Primary	52% (883)	42% (58)
Incomplete Secondary	5.9% (182)	3.7% (6)
Complete Secondary/Higher Education	9.2% (184)	33% (47)
Has bank acct or other acct in financial institution:		
No	80% (1547)	59% (81)
Yes	20% (340)	41% (53)
Antenatal care		
No	2.7% (47)	0% (0)
1-3 Visits	53% (1019)	42% (59)
4 visits (standard)	23% (441)	33% (41)

5+	21% (380)	25% (34)
Marital Status:		
Never in Union	9.1% (150)	8% (11)
Married	56% (1150)	60% (84)
Living with partner	25% (426)	29% (35)
Widowed	1% (16)	0% (0)
Divorced	3.4% (67)	1.4% (1)
Separated/no longer living with partner	4.9% (78)	1.8% (3)

Table 1.2: Description of women who gave birth by insurance status: 2022 DHS

	No Insurance 95.61%(n=2,037) Weighted % (n)	Yes Insurance 4.39%(n=90) Weighted % (n)
Delivery in Health Facility		
No	20% (387)	7.4% (7)
Yes	80% (1650)	93% (83)
Age		
15-19	13% (252)	5.5% (4)
20-24	28% (543)	15% (11)
25-29	25% (495)	25% (27)
30-34	16% (364)	30% (24)
35-39	12% (250)	19% (19)
40-44	4.5% (111)	4% (4)
45-49	<1% (22)	<1% (1)
Education level:		
No Education	20% (402)	1.7% (2)
Incomplete Primary	10% (197)	3.7% (2)
Complete Primary	47% (860)	22% (22)
Incomplete Secondary	8.1% (241)	4.9% (6)
Complete Secondary/Higher Education	15% (337)	68% (58)
Has bank acct or other acct in financial institution:		
No	96% (1936)	55% (49)
Yes	3.9% (101)	45% (41)
Antenatal Care Appointments		
No	10% (215)	7.4% (9)
1-3 Visits	26% (549)	11% (12)
4 Visits	23% (495)	25% (21)
5+ Visits	40% (775)	56% (48)
Marital Status:		
Never in Union	9.2% (168)	18% (10)
Married	56% (1220)	66% (64)
Living with partner	27% (502)	14% (13)

Widowed	<1% (13)	0% (0)
Divorced	3.6% (78)	0% (0)
Separated/no longer living with partner	3% (56)	2.9% (3)

Table 2.1: Unadjusted and adjusted odds ratios of giving birth in a biomedical facility among women in Tanzania, 2015-16 DHS

Characteristics	Unadjusted Odds Ratio (95% CI)	Adjusted Odds Ratio Confounders Removed (95% CI)
Insurance Status		
Insured	2.42 (1.44, 4.07)	2.40 (1.41, 4.08)
Uninsured	1.00 (ref)	1.00 (ref)
Antenatal care Appointments Attended		
No	0.20 (0.09, 0.45)	0.23 (0.10, 0.50)
1-3	0.64 (0.49, 0.84)	0.66 (0.50, 0.87)
4 visits (standard in TZ)	1.00 (ref)	1.00 (ref)
5+	1.29 (0.90, 1.84)	1.29 (0.89, 1.86)
Has bank acct or other acct in financial institution:		
Yes	3.52 (2.59, 4.80)	
No	1.00 (ref)	
Age		
15-19	1.40 (1.01, 1.96)	1.43 (1.02, 2.01)
20-24	1.06 (0.78, 1.45)	1.10 (0.81, 1.51)
25-29	1.0 (ref)	1.00 (ref)
30-34	1.17 (0.83, 1.64)	1.17 (0.84, 1.63)
35-39	0.76 (0.50, 1.13)	0.76 (0.51, 1.15)
40-49	0.68 (0.42, 1.10)	0.70 (0.44, 1.13)
Marital Status:		
Yes	0.91 (0.68, 1.23)	0.94 (0.69, 1.28)
No	1.00 (ref)	1.00 (ref)
Education level:		
No Education	1.0 (ref)	
Incomplete Primary	1.88 (1.32, 2.69)	
Complete Primary	2.59 (1.95, 3.45)	
Incomplete Secondary	6.07 (3.53, 10.44)	
Complete Secondary/Higher Education	18.11 (9.07, 36.17)	

Table 2.2: Unadjusted and adjusted odds ratios of giving birth in a biomedical facility among women in Tanzania, 2022 DHS

Characteristics	Unadjusted Odds Ratio (95% CI)	Adjusted Odds Ratio Confounders Removed (95% CI)
Insurance Status		
Insured	3.12 (1.28, 7.61)	2.87 (1.25, 6.59)
Uninsured	1.00 (ref)	1.00 (ref)
Antenatal care Appointments Attended		
No	0.98 (0.63, 1.54)	1.00 (0.64, 1.58)
1-3	0.55 (0.37, 0.81)	0.56 (0.37, 0.84)
4 visits (standard in TZ)	1.00 (ref)	1.00 (ref)
5+	2.42 (1.71, 3.42)	2.36 (1.66, 3.35)
Has bank acct or other acct in financial institution:		
Yes	12.31 (3.81, 39.80)	
No	1.00 (ref)	
Age		
15-19	1.32 (0.80, 2.17)	1.38 (0.82, 2.33)
20-24	1.04 (0.70, 1.54)	1.02 (0.68, 1.52)
25-29	1.0 (ref)	1.00 (ref)
30-34	0.81 (0.54, 1.21)	0.85 (0.56, 1.30)
35-39	0.51 (0.31, 0.84)	0.55 (0.34, 0.90)
40-49	0.55 (0.31, 0.98)	0.63 (0.43, 1.14)
Marital Status:		
Yes	0.86 (0.63, 1.15)	0.85 (0.62, 1.17)
No	1.00 (ref)	1.00 (ref)
Education level:		
No Education	1.0 (ref)	
Incomplete Primary	1.28 (0.83, 1.99)	
Complete Primary	2.37 (1.70, 3.30)	
Incomplete Secondary	6.50 (3.51, 12.03)	
Complete Secondary/Higher Education	12.73 (6.74, 24.05)	

Results

Table 1.1 and 1.2 display the distribution of the chosen demographic variables including: age, education, marital status, and others by insurance status. In 2015-2016, 6.63% of Tanzanian women aged 15-49 that have given birth within the last year reported having insurance compared to 93.37% without insurance in Tanzania. Women with health insurance delivered in a health facility (80%) more than those who did not have insurance (63%). In 2022, 4.39% of women

aged 15-49 reported having insurance compared to 95.61% without insurance in Tanzania. The percentage of women with insurance that delivered in a biomedical facility (93%) was higher than those women who delivered in a biomedical facility without insurance (80%).

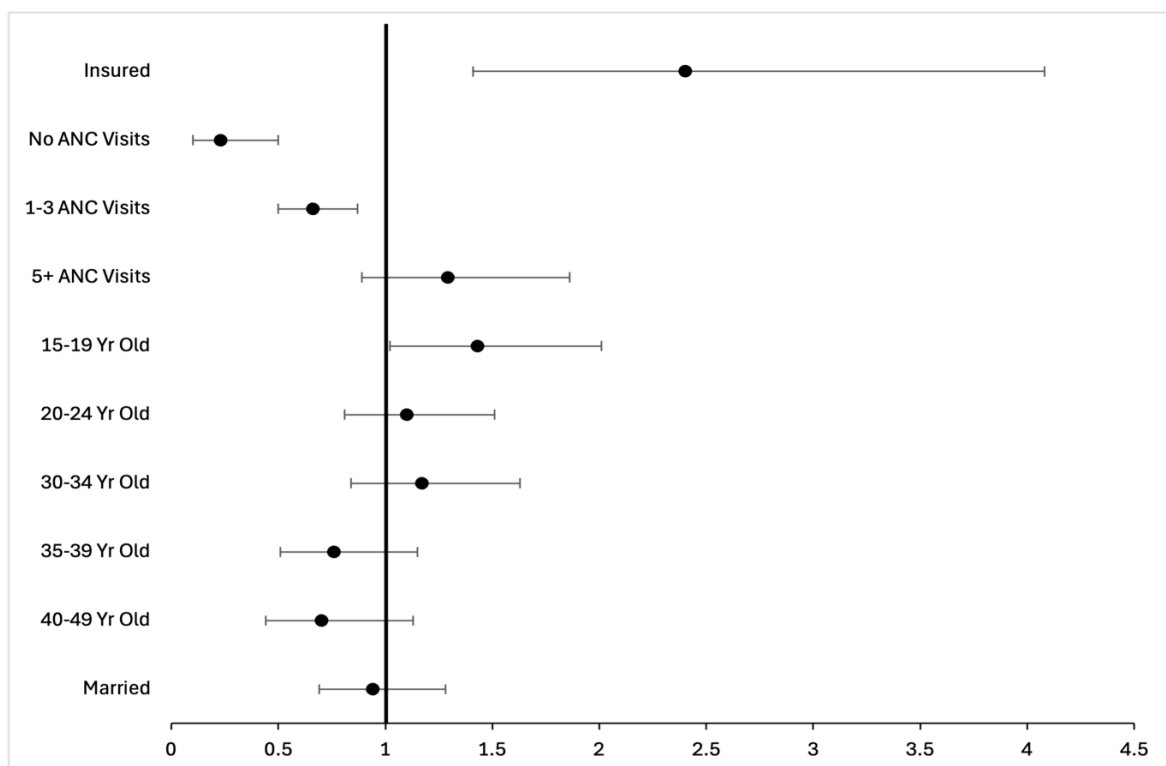
Of the women that have health insurance in 2015-2016 a majority fall within two age groups 25-29 and 35-39 years old (24% and 22% respectively). Most of the women that do not have health insurance are in the 20-24- and 25-29-years old age group (28% and 22% respectively). Of the women that have insurance most fall between the ages of 25-34 years old for 2022. Those without insurance tend to be younger, a little over half being 20-29 years old.

Women that have health insurance in 2015-2016 tend to be more educated with 33% having completed secondary education and/or higher-level education. Most of the women in 2015-2016 that do not have health insurance also do not have a bank account, 96%, compared with 55% of women that do have insurance but not a bank account. In 2022, less than half of the women with insurance had a bank account (45%) compared to 3.9% of women without insurance. Marital status across the uninsured and insured women is similar in 2015-2016. Marital status among women in 2022 was also similar for insured and uninsured women, with the exception that no insured women reported being widowed or divorced. Attending antenatal care was quite similar among women with and without health insurance in 2022, although the percent of women never attending antenatal care was higher among the uninsured women at 10%. For the women in 2015-2016, antenatal care seemed to be well attended among women with a bulk of them either in the 1-3 or 4 visit range.

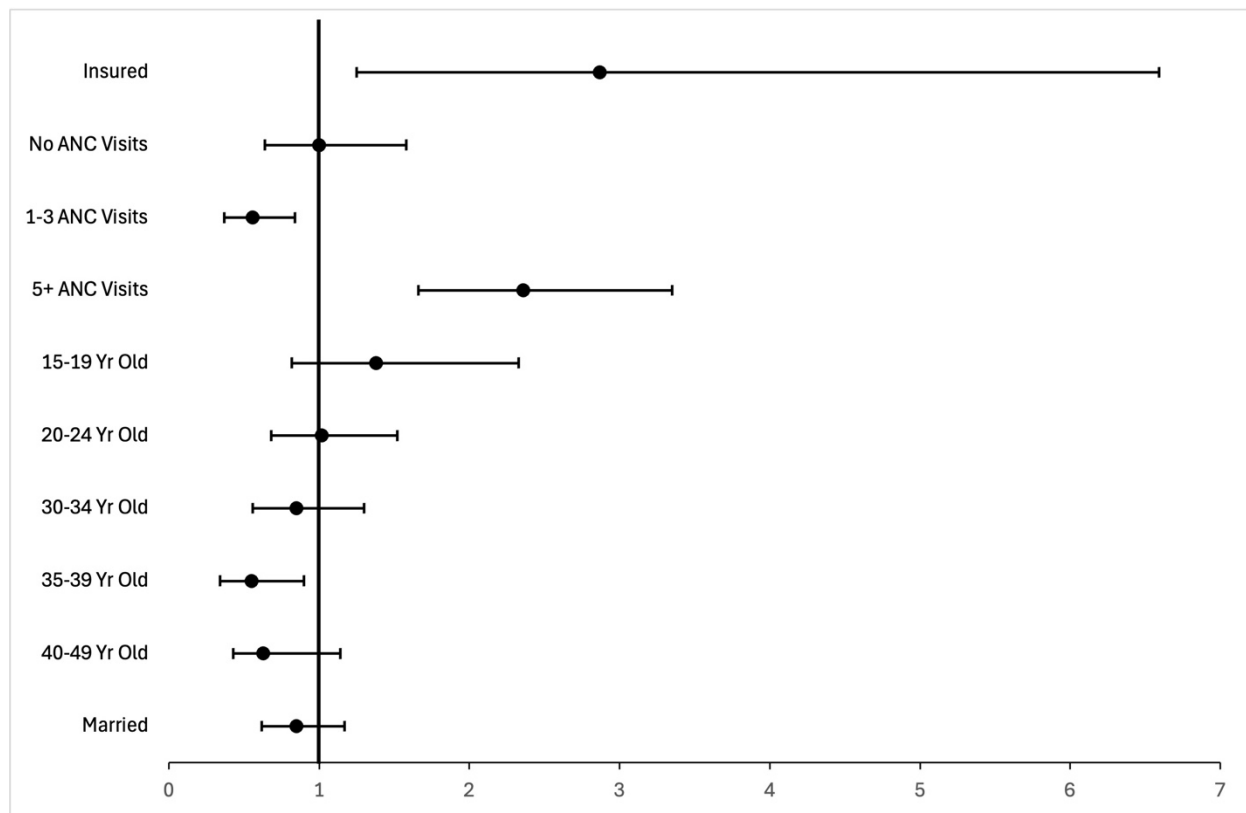
Across every model presented in the Table 2s, I found that the women that are insured have higher odds of delivering in a biomedical facility than those women who do not have insurance for both 2015-2016 and 2022. The unadjusted odds of delivering in a biomedical facility for

women with insurance in 2022 is 3.12 (1.28, 7.61) times the odds of women that do not have insurance. The adjusted odds ratio does change significantly when two variables are removed to account for confounding. With the removal of education status and having access to a bank account, the odds ratio of the exposure is significant as women with insurance are 2.87 (1.25, 6.59) times the odds of delivering in a biomedical facility compared to women without insurance, holding all else constant. The variables assessing educational attainment and bank account are highly correlated with insurance status. Similar findings can be seen in the 2015-2016 data set. The unadjusted odds of delivering in a biomedical facility for a woman with insurance is 2.42 (1.44, 4.07) times the odds of women that do not have insurance. The adjusted odds ratio is still significant as women aged 15-49 have 2.40 (1.41, 4.08) times the odds of delivering in a biomedical facility compared to those without insurance.

Graph 1: Adjusted odds ratios of giving birth in a biomedical facility among women in Tanzania, 2015-2016 DHS



Graph 2: Adjusted odds ratios of giving birth in a biomedical facility among women in Tanzania, 2022 DHS



Discussion

The unadjusted and adjusted odds ratios demonstrated that women with insurance have higher odds of delivering in a biomedical facility compared to those that do not have insurance. These results support the hypothesis that women, aged 15-49, who have insurance are more likely to give birth in a biomedical health facility compared to those that do not have insurance. There have been many studies that show that insurance status greatly impacts accessibility of medical facilities because it protects patients from catastrophic health expenditures.¹⁵⁻¹⁷ Anaëli et al., uses DHS 2022 data to demonstrate that women of reproductive age, 15-49, with insurance have 1.37 (1.14, 1.65) times the odds of utilizing healthcare services within the last year compared to women without insurance, when adjusted for.¹⁵ Although this study is looking at

general utilization of healthcare services, they reported 5.8% of women, 15-49 years old, had insurance which is very similar to our findings for 2022.¹⁵ One of the most surprising findings from this study is that being married did not have an increased odds of delivery, even in unadjusted analyses, in a biomedical facility. Marriage is a potential indicator for insurance since many women have insurance through their spouse which I thought would be reflected in the odds ratio for marriage status.¹²⁻¹³

For 2022, the odds of women aged 15-49 who attended 5 or more antenatal care visits had 2.36 (1.66, 3.35) times the odds of delivering in a biomedical facility compared to those who did not. The last finding that needs to be addressed is age. Almost every category for age was not significant in both adjusted models and did not seem to have much impact on the odds of delivering in a biomedical facility. Only women aged 35-39 in the 2022 dataset had an odds ratio of 0.55 (0.34, 0.90) which was significant. This means there is a decreased odds of women aged 35-39 with insurance delivering in a biomedical facility. This is an area that would require more research. Previous studies have shown that women of advanced age that are more educated, have attended a higher number of ANC visits, and have a higher socio-economic status have more hospital births compared to their counterparts.^{18,19}

Limitations

This study is limited by its small sample size which severely limits the ability to generalize the results. The data is weighted to make it nationally representative, however with so few people possessing insurance it is difficult to say what the healthcare system would look like if everyone or even half the population had access to insurance. Ly, Bassoum, and Faye completed a literature review on health insurance in Africa, finding that government-run health insurance programs fared better than community-based health insurance as a way to achieve

universal healthcare within different African countries, including Tanzania.²⁰ However it is important to know that no African country has come close to achieving universal health insurance coverage, however Kenya has made significant progress in the provision of free maternal healthcare through their national health insurance fund.²¹ Another limitation to this study is that the survey does not ask about insurance utilization for antenatal care or delivery specifically. While some women may report having insurance it is not clear if they needed to use the insurance during any visits. Similarly, we do not know how much out-of-pocket expenditure is saved from utilizing insurance for delivery because there are no questions asking about medical payments in the DHS.¹⁵⁻¹⁷ Given previous experience in Tanzania, we know that sometimes women are asked to pay for medications and supplies during delivery that should be free; it is a serious limitation that we cannot know if insurance protects against these charges.

Conclusion

This study can be used to advocate for increased support for women to access resources to afford insurance or understand its purpose. The results above can also be useful to understand the type of women that already have access to insurance, as seen in Table 1 more women with insurance were married, more educated, and attended antenatal care visits. These are all important factors to consider when designing insurance plans. The results from this study are supported by the existing literature that demonstrated that having insurance is important for healthcare utilization during pregnancy.¹⁶ As with most studies, this work highlights that more research is needed to truly understand the impact insurance has on delivery in biomedical facilities as a proxy for understanding access to healthcare services specifically for maternal patients compared the relationship between insurance and accessing healthcare services broadly.²²

Appendix I.

Adjusted odds ratios of giving birth in a biomedical facility among women in Tanzania, 2015-16
DHS

Characteristics	Adjusted Odds Ratio (95% CI)
Insurance Status	
Insured	1.78 (1.01, 3.13)
Uninsured	1.00 (ref)
Antenatal care Appointments Attended	
No	
1-3	0.18 (0.07, 0.42)
4 visits (standard in TZ)	0.75 (0.56, 1.00)
5+	1.00 (ref)
	1.19 (0.82, 1.74)
Has bank acct or other acct in financial institution:	
Yes	2.24 (1.59, 3.15)
No	1.00 (ref)
Age	
15-19	1.55 (1.09, 2.20)
20-24	0.93 (0.68, 1.28)
25-29	1.0 (ref)
30-34	1.33 (0.94, 1.87)
35-39	0.89 (0.57, 1.38)
40-44	0.68 (0.38, 1.21)
45-49	5.08 (1.64, 15.77)
Marital Status:	
Yes	1.01 (0.74, 1.37)
No	1.00 (ref)
Education level:	
No Education	1.0 (ref)
Incomplete Primary	1.76 (1.23, 2.53)
Complete Primary	2.23 (1.65, 3.01)
Incomplete Secondary	5.17 (3.03, 8.81)
Complete Secondary/Higher Education	11.17 (5.37, 23.21)

Appendix II.

Adjusted odds ratios of giving birth in a biomedical facility among women in Tanzania, 2022 DHS

Characteristics	Adjusted Odds Ratio (95% CI)
Insurance Status	
Insured	1.09 (0.46, 2.58)
Uninsured	1.00 (ref)
Antenatal care Appointments Attended	
No	
1-3	1.15 (0.72, 1.81)
4 visits (standard in TZ)	0.65 (0.43, 1.00)
5+	1.00 (ref)
	2.13 (1.49, 3.05)
Has bank acct or other acct in financial institution:	
Yes	3.94 (1.15, 13.53)
No	1.00 (ref)
Age	
15-19	1.63 (0.95, 2.79)
20-24	1.13 (0.77, 1.66)
25-29	1.0 (ref)
30-34	0.97 (0.63, 1.50)
35-39	0.72 (0.43, 1.19)
40-44	1.23 (0.64, 2.38)
45-49	0.36 (0.12, 1.08)
Marital Status:	
Yes	0.84 (0.60, 1.16)
No	1.00 (ref)
Education level:	
No Education	1 (ref)
Incomplete Primary	1.31 (0.81, 2.13)
Complete Primary	2.19 (1.54, 3.11)
Incomplete Secondary	5.03 (2.70, 9.38)
Complete Secondary/Higher Education	7.55 (3.79, 15.03)

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