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When the Health System Fails You: Maternal Care Under Kenya's 2017 Nurses' Strike

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When the Health System Fails You: Maternal Care Under Kenya's 2017 Nurses' Strike

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Abstract

This study focuses on the 2017 nurses' strike and how the crippling of the public health system impacted maternal care in Kisumu, Kenya. Kenya has one of the highest maternal mortality ratios in the world, and there have been many efforts to reduce this, such as delivery with a Skilled Birth Attendant and attending antenatal care visits, all of which are centered around a functioning health system. The research team used a combination of interviews with key populations and analysis of service delivery data at local health centers to evaluate the effects of the strike on maternal care. The study concludes that the public nurses' strike negatively affected maternal care, forcing many women to undertake a significant financial burden for delivery services at private health facilities. Because these finances are not always readily available to some women, it is likely that at-home births without a Skilled Birth Attendant increased during this time, as the private facility assessed during this study reported turning women away who could not pay for services. The Kenyan government must make investments to strengthen the health system to prevent strikes in the future and improve maternal health.

Introduction

The 2010 Kenyan Constitution identifies healthcare as a right for all Kenyans. In Article 43, Section 1a, the Constitution states that, “Every person has the right to the highest attainable standard of health, which includes the right to health care services, including reproductive health care (The Constitution of Kenya, 2010, p.31).” With this right stated, it places a responsibility of the government to work to the best of its ability to allow all its citizens to attain the appropriate standard of health. The Constitution places a rightful importance on the right to reproductive health care, especially as the country aims to reduce HIV prevalence, curb adolescent pregnancies, and reduce maternal and child mortality.

Maternal mortality has been one of the global health community’s top priorities in recent years, focusing especially on developing countries. Kenya has seen a decline in its maternal mortality ratio (MMR) since 1990, moving from 687 deaths per 100,000 livebirths to 510 per 100,000 in 2015 (Keats et al., 2017). This is compared to that of Kisumu County, which is 495 deaths per 100,000 live births (Kisumu County Fact Sheet, 2015, p. 4). One continued contributor to maternal mortality in Kenya is the practice of at-home births without the presence of a skilled birth attendant (SBA) like a nurse. According to the United Nations Population Fund (UNFPA), 62% of births from 2006-2015 in Kenya were attended by an SBA (UNFPA, 2016, p. 1). Subsequently, there has been a major public health push in recent years for women to deliver in health facilities, including a government policy passed in 2013 to provide antenatal (pregnancy) care and delivery services at public health facilities at no charge to the patient.

There is, however, a threat to each of the abovementioned interventions on preventing maternal deaths: an unfortunate history of health worker strikes in Kenya. The past strikes in 1997, 2012, and 2014 all follow a very similar pattern of public healthcare workers, employed by

the government, demanding better pay and an evaluation of their working conditions. The government has often failed to uphold its end of a Collective Bargaining Agreement signed by both parties that ensures the above demands, so the healthcare workers persist with strikes until the government fulfills its promises. Each strike has ended with the government agreeing to increase the health workers' pay and vowing to evaluate the other demands in the near future.

Kenya has both public and private healthcare facilities, with many services at public facilities being subsidized by the government, including the free maternal care policy. While the health workforce has been increasing significantly since 2008, the number of nurses per 1,000 people is still far below the WHO recommendation. According to the World Bank, as of 2013 Kenya had 0.868 nurses per 1,000 people, while, "The WHO estimates that at least 2.5 medical staff (physicians, nurses and midwives) per 1,000 people are needed to provide adequate coverage with primary care interventions" (World Bank, 2017). The shortage of healthcare workers was exacerbated from June 5th, 2017 to November 3rd, 2017, while 25,000 public facility nurses were on strike due to the government's failure to uphold the previously agreed-upon deal of increased wages and evaluation of working conditions. This 5-month long strike started shortly after public hospital doctors returned to work after a 100-day strike. Because of the strike, many public hospitals were essentially closed, only focusing on critical cases and advising all others to go to private clinics. On June 6th, 2017, just one day into the strike, Reuters reported that, "'Places like the maternity wing cannot function at all without nurses. So, operations there are literally grounded,' [an anonymous doctor] said, adding that they had advised mothers-to-be to seek private facilities" (Akwiri, 2017). The most prominent interventions in reducing maternal mortality require the presence of healthcare workers. In a report on October 15, 2017 by Kenyan news outlet CitizenTV, the number of maternal deaths in Marsabit County doubled from 413 to

857 during the first six months of 2017 compared to the first six months of 2016 (CitizenTV, 2017). The healthcare workers' strikes are having a drastic effect on maternal health in Marsabit County, and this study aims to address the effect in Kisumu County through interviews with members of key affected populations and evaluation of service delivery data.

Literature Review

Some of the most prominent public health interventions to reduce the maternal mortality ratio around the world are the promotion of attending antenatal care appointments and delivering in a health facility with a skilled birth attendant. Sri Lanka, a developing South Asian country, has become a model for the rest of developing countries on its success in vastly reducing its maternal mortality ratio. The MMR in 1930 was 2080 deaths per 100,000 live births, which decreased to 405 deaths per 100,000 live births in 1955, and has most recently decreased to 39.3 deaths per 100,000 live births in 2006 (Haththotuwa, Senanayake, Senarath, & Attygalle, 2012, p. 545). Many of the factors contributing to this successful decline are widespread access to delivery of maternal and antenatal care, training Traditional Birth Attendants as midwives, family planning services, and education reform (Haththotuwa, Senanayake, Senarath, & Attygalle, 2012). As a result, "98% of the births [from 2001-2007] took place in institutions (84% of which were in hospitals with specialist obstetricians), while 2% of the births were home deliveries" (Haththotuwa et al., 2012, p. 546). Most maternal deaths are due to preventable causes such as obstructed labor, hemorrhaging, and infections (Health Policy Project, 2013, 1). The prevention of these complications is attributed to mothers being "managed at a health facility by a qualified health professional" (Health Policy Project, 2013, p. 1). Maternal care includes antenatal visits during which women are screened for possible risks to allow healthcare

providers to prepare for delivery services. Adam et al. (2014) highlighted the importance of delivering in the presence of a skilled birth attendant by stating that “reducing home deliveries or deliveries with an unskilled birth attendant combined with earlier identification of danger signs in a mother or newborn form an indispensable part of many of these evidenced based interventions” (p. 1). A vital way to decrease the maternal mortality ratio in Kenya is to promote antenatal health visits and deliveries at health facilities, however, a combination of factors continues to impede these interventions.

Caulfield et al. (2016) conducted a qualitative study identifying factors that discouraged pastoral women from delivering in health facilities. Among these were poor treatment by SBAs, lack of respect for cultural values, high regard for Traditional Birth Attendants (TBAs) and the service they provide, and distance from health facilities. The study identified that “although the majority of study respondents knew that giving birth in a health facility was free, the cost of transport was prohibitive for most pastoralist families” (Caulfield et al., 2016, p. 4). TBAs are highly respected members of many communities, and some women prefer to give birth with a familiar person who has followed her throughout the pregnancy. TBAs, however, do not receive formal training for deliveries, meaning they often cannot handle the complications that arise in at least 15% of deliveries (Caulfield et al., 2016, p. 2). Frequently, it is too late to seek treatment at a health facility when complications arise, especially when health facilities are far away and transportation is expensive.

To achieve health goals and make identified best practices more widespread, Kenya has a network of Community Health Volunteers (CHVs), community members who volunteer their time to promote good health practices by educating their fellow community members. Because of CHVs’ relationship with the community, they are effective in encouraging positive behavior

change. One of the largest jobs of CHVs is to refer those in need to health professionals, especially expecting mothers. Adam et al. (2014) concluded that “the number of women delivering under skilled attendance was higher among those mothers who reported receiving at least one health message, compared to those who did not” (p. 1). This finding highlights how influential CHVs can be in promoting good health behaviors. CHVs are also tackling the dilemma of untrained TBAs by connecting them to the health system. Reuters reports that CHVs are now working with TBAs to encourage them to refer women with complicated pregnancies to health facilities and providing a 300 Kenyan Shilling (around 3 USD) stipend for transportation of each women referred (Langat, 2016). Since this initiative, many public health centers have seen an increase in the number of women delivering in their facilities, and that number has more than tripled at Migosi Health Center in Kisumu (Langat, 2016).

Out of Ethiopia’s Health Extension Worker program, the Ministry of Health created a program they call “The Women’s Development Army,” a network that focuses on reducing maternal mortality by encouraging birth in health facilities. Dr. Admasu Kesete, Ethiopia’s Minister of Health from 2012-2016 wrote an article for Quartz highlighting the immense success of The Women’s Development Army and what makes it work. While the Health Extension Worker program assigns one worker to every 500 families, he reports that, “The Women’s Development Army, on the other hand, has 3 million members, one for every six families” (Kesete, 2017). Because of this dynamic, “between 2011 and 2016, the proportion of women giving birth in facilities increased from 20 to 73% (Kesete, 2017).” The most unique factor of this program is the way in which The Women’s Development Army acts as a way in which community members can tell the Ministry of Health what they want in health facilities. For example, religious leaders are now welcome at deliveries because women reported wanting them

there during this important time in their lives. Dr. Kesete writes of the importance of the fact that “a safer birth doesn’t mean a birth divorced from people’s culture” (2017). The success of the program is directly linked to the Ministry of Health’s willingness to include aspects of culture into its health facilities to make health facility births not just available, but culturally acceptable.

In a 2012 study conducted by Amieva and Ferguson, nurses were identified as vital actors in the achievement of the United Nations Millennium Development Goals associated with decreasing maternal and child mortality. This paper discusses the importance of nurses’ connections to CHVs in that nurses are the frontline of the health system and one of the biggest influencers in maternal and child health, considering their prominent role in delivery rooms. By collaborating with CHVs, “nurses can share their knowledge and provide technical clinical guidance” (Amieva & Ferguson, 2012, 56). The collaboration of CHVs’ demonstrated capacity to change health behavior and nurses’ ability to provide skilled antenatal and delivery services is critical for reducing maternal mortality.

A study of the two-week August 2014 health workers’ strike in Mombasa, Kenya evaluated the effect on service delivery and utilization of services during the strike. Njuguna found that “Maternal and Child Health/Family Planning clinic attendance declined from a monthly mean of 1,511 to 360 in August,” and that the number of deliveries declined during that month (Njuguna, 2015, p. 1202 & 1204). These data show that healthcare workers’ strikes have the potential to negatively affect maternal services considerably, even during only a two-week period. If service delivery was decreased that drastically in that short amount of time, the nurses’ strike of five months is likely to have a much larger impact on health. A June 17th, 2017 report, just 12 days after the strike began, announced that 12 patients had died due to lack of access to services (Lancet, 2017, p. 2350). About a month after this report, however, Phoebe C M

Williams, a doctor working in Kenya, wrote an opinion piece in *The Lancet* stating that the previous 12 deaths were unfortunately an understatement (Williams, 2017, p. 551). Williams wrote that she, “watched as 28 patients from the adjacent government ward (appendix) were shuffled out on June 4, mid-way through treatment (Williams, 2017, p. 551)...” With reports like these coming from the beginnings of the strike, it is likely that the situation will continue to get worse, patients will continue to be turned away, and more people will die.

Statement of Problem

The most prominent interventions for reducing the maternal mortality ratio are for women to seek antenatal care and deliver in the presence of SBAs. However, with public sector nurses on strike for so long, many public health centers are near-paralyzed in their ability to offer health care. This can also cause congestion at the private healthcare facilities, which does not alleviate the problems associated with a lack of healthcare workers. This research project will focus on the effect of the health workers’ strike on maternal care.

Objectives

The objectives of this Independent Study Project are:

- To describe how the nurses’ strike affected women in the community of Manyatta, Kisumu by utilizing interviews with this population
- To compare service delivery data at public and private health centers in Kisumu before and during the strike.
- To assess the effect of the nurses’ strike on private healthcare facilities and workers
- To inform solutions to the problem of healthcare worker strikes in Kenya

Setting

This research project was conducted in Kisumu, Kenya, the country's third largest city located near Lake Victoria. Kisumu attracts many people from surrounding villages because of job opportunities not always found in more rural areas. Kisumu has suffered from rapid unplanned urbanization, or an increase in population without a matching increase in services such as water, sanitation, roads, and housing. This has resulted in a few informal settlements, in the city, typically large communities where poverty is common, clean water and proper sanitation are not guaranteed, and the homes are made of mud or iron sheets and are very close together. Interviews were conducted in Manyatta, one of the informal settlements in Kisumu. Manyatta is located near Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH), the largest public hospital in Kisumu.

This research project also utilized health facilities in the Kisumu area to gather information about service delivery and functionality. Two of the facilities, JOOTRH and Nyalenda Health Center, are public facilities, typically offering more services at no or low costs to the patients. The other facility, Nightingale Medical Center, in Kondele, is private and is not required to abide by government policies like free maternity care. These facilities were chosen both due to their location in Kisumu and because they were some of the facilities mentioned by women interviewed as facilities at which they delivered or attended antenatal care visits.

Methodology

Interviews

This research project was conducted over four weeks from mid-November to mid-December 2017. The project began by contacting the Research Assistant for this project, a Community Health Volunteer from Manyatta, and informing her about the methods and purpose

of the study. The research team started by interviewing both pregnant women and women who gave birth in the 2017, during the healthcare workers' strikes. Using these interviews, the team identified health facilities to visit for service delivery records and interviews. The resulting data and information have been compiled and analyzed to show trends of delivery and antenatal care visits among women during the strike months in correlation with service delivery data from the different health centers.

Interviews with pregnant women and women who have given birth during the nurses' strike were utilized to understand the real impact of the strike on maternal care. Women were asked whether they were able to receive antenatal care, whether they were able to deliver with a skilled birth attendant, and overall whether they were able to access all the care they desired during and after their pregnancy. In total, the research team interviewed 30 women who either were pregnant during the strike or gave birth in the last eight months. This breakdown resulted in information from seven women who gave birth during the doctor's strike in early 2017, 13 women who gave birth during the nurses' strike, and 10 women who were pregnant during the strike. Of the 10 pregnant women, two of them were three months pregnant or less; because antenatal care visits begin at three months, they had not experienced any effects from the strike. Their answers have been removed from the results of this study. The interview outlines can be found in Appendices C and D.

The project also interviewed an administrative nurse at Nyalenda Health Center (public) and a maternity nurse at Nightingale Medical Center (private) to understand the effect of the nurses' strike on the facilities. The interviews provided insight into the functionality of the health facilities and the hardships faced by both the healthcare workers and communities during the strike. Service delivery data was also collected at these facilities and Jaramogi Oginga Odinga

Teaching and Referral Hospital (JOOTRH) in order to evaluate the differences in number of deliveries and antenatal care visits during non-strike and strike months. The guide for these interviews can be found in Appendices E and F.

Limitations

The researcher's primary language is English with limited understanding of Kiswahili. As for the participants, the interview questions were transcribed in both English and Kiswahili, depending on the language with which the interviewee was most comfortable. There was not a Luo translation, the tribal language of most residents of Kisumu, however, the research assistant was able to provide real-time translation of questions into Luo and answers into English. Due to the need to translate interviews, some nuances and details of the conversations could be lost in translation for the final report. The research team worked to ensure the best translations and representations of all interviews conducted, including follow up questions during interviews for clarification. In addition, maternal health and mortality can be a sensitive topic, especially when discussing deaths. This could have resulted in unwillingness to answer questions or skewed answers, affecting the data gathered for the study.

Ethics

This project was approved by the SIT Local Review Board for ethical considerations. This approval was then forwarded to the Kisumu County Director of Health, who further approved the research projects and granted the researchers access to facilities in the county. Due to the sensitivity of the topic, traumatic memories could have been resurfaced during the interviews, especially related to pregnancy complications and death. The research team

attempted to reduce the potential problems by assuring interviewees that they were not required to answer a question if they did not wish to do so. In addition, if the interviewee needed some time to collect themselves, this was always given. If the interviewee appeared to be particularly upset and/or traumatized, the research team terminated the interview.

Results and Discussion

Community Impact

Pregnant women were interviewed to understand the effect of the strike on antenatal care visits, a very important measure linked to reduces in maternal and neonatal mortality. Of the eight pregnant women interviewed, three reported having trouble going to antenatal clinics, with two women having not attended any clinics. One woman, who was eight months pregnant, had attended two out of the recommended four clinic visits. She also reported that she was advised see a gynecologist during her pregnancy, but she was unable to do so because of the strike. Each of the pregnant women interviewed reported that her delivery plan was at a public hospital. Four of the women reported that they attended antenatal clinics at public facilities with no trouble, even though the nurses' strike was happening. Figure 1 shows the number of ANC clinic visits at JOOTRH per month in 2017. As the graph shows, there seems to be no significant difference in the number of ANC clinic visits throughout the year based on healthcare worker strikes. The number of new ANC visits remains very consistent throughout the year, and while the number of re-attending ANC visits fluctuates a bit, it cannot be concluded that either of the healthcare worker strikes were the cause, considering the month with the most re-attending ANC visits is July, during the nurses' strike. It is likely that another group in the healthcare system undertook the responsibility of providing ANC care, such as clinical officers, nurses hired by NGOs, and

even possibly CHVs providing the basic nutrition and importance of delivering at a health facility information. ANC visits do not seem to be drastically affected by the nurses' strike. It is important to note that, according to Keats, et al., over 90% of women attend at least one ANC clinic and only around 60% of births are attended by an SBA (2017, p. 787). An evaluation of ANC clinics should be conducted in efforts to evaluate how to more effectively encourage births with an SBA. The behavior encouraged by ANC clinics, specifically delivering in a health facility, was likely thwarted by the persistent healthcare worker strikes.

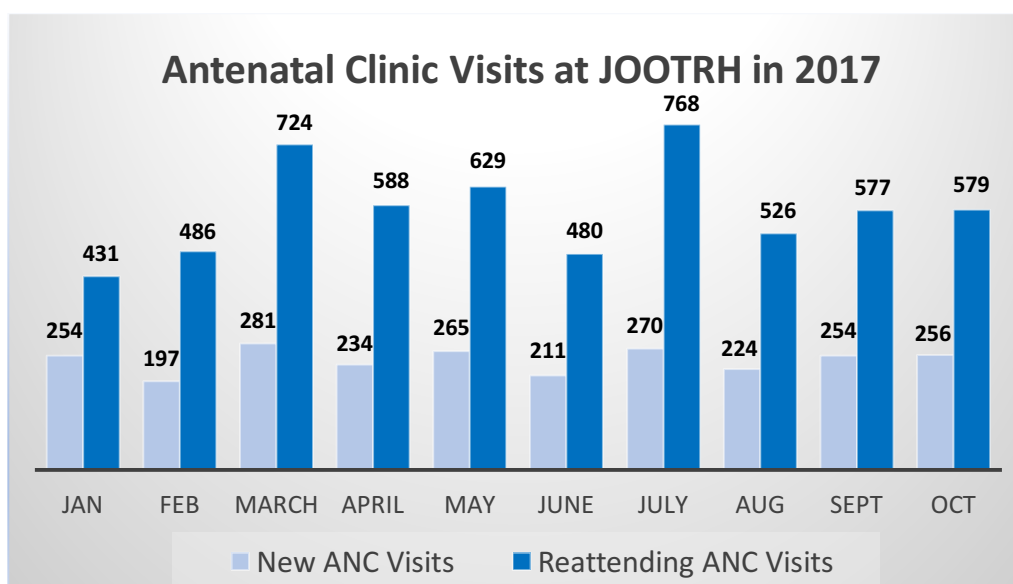


Figure 1: Graph showing ANC visits at JOOTRH in 2017

While not the main focus of this research project, it is important to note the effect of the doctor's strike from December 2016 to mid-March 2017 and its effect on maternal care. A total of seven women were interviewed who gave birth during the doctor's strike. One of these women reported that she had troubles with her delivery because trainees delivered her. She attributes these troubles to the fact that the trainees were not as experienced and were unable to make prompt decisions, and this resulted in her having an emergency Cesarean Section (CS). Two women reported going to private health facilities for their delivery because of the strike. One stated that all of her deliveries were complicated, so she knew she needed to see a doctor for

her delivery. Another woman reported being able to deliver at a public facility, but had to seek vaccinations for her newborn at a private facility due to the nurses' strike. Overall, the doctor's strike seemed to also contribute a burden to maternal health, especially considering this year was riddled with healthcare worker strikes in general. Only about 4 months of the year would be considered strike-free, creating a disheveled health system with a lot of confusion.

The research team interviewed a total of 13 women in Manyatta who gave birth during the nurses' strike. From these interviews, it was concluded that 12 out of the 13 women, or 92%, were directly affected by the nurses' strike: they intended to deliver at a public health facility, but were forced to choose a different path. One woman interviewed reported having always intended to deliver at a private facility. Figure 2 shows the distribution of where women delivered during the nurses' strike. Eleven of the 13 women interviewed delivered at a private health facility, while one woman delivered at home alone and another delivered at home with a TBA. These interviews show that the nurses' strike had a large impact on where women chose to deliver. Especially considering maternal care in public health facilities is free, it makes sense that the majority of women intended to utilize these services, considering the interviews were done in one of the lower-income areas of Kisumu.

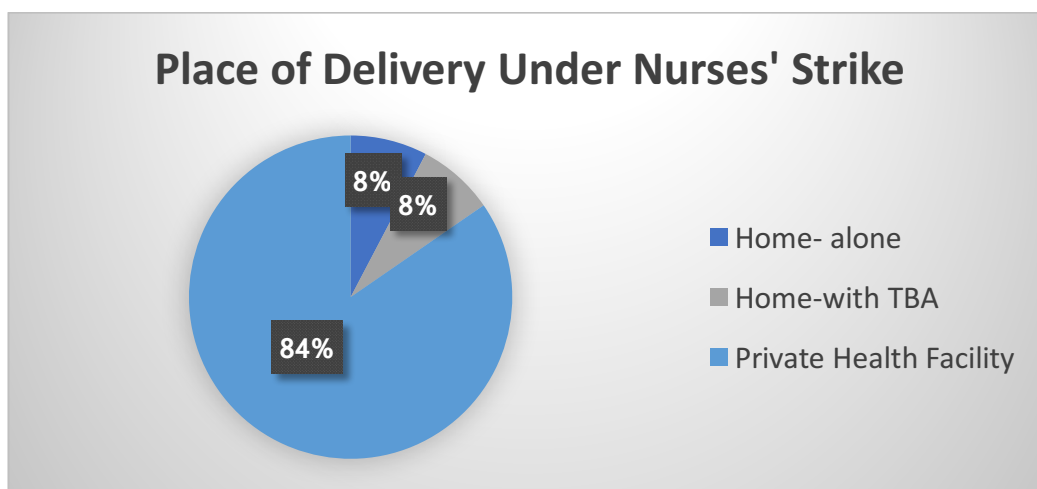


Figure 2: Graph showing place of delivery during the nurses' strike

Public vs. Private Health Facilities

The research team was able to access service delivery data for the maternity wards at both JOOTRH and Nightingale Medical Center, two major health facilities in Kisumu. Figures 3 and 4 show their respective number of deliveries during each month of 2017. The data from JOOTRH were collected in late November, so the graph does not include November's numbers. The data from Nightingale, however, were collected in early December, so November's information is included.

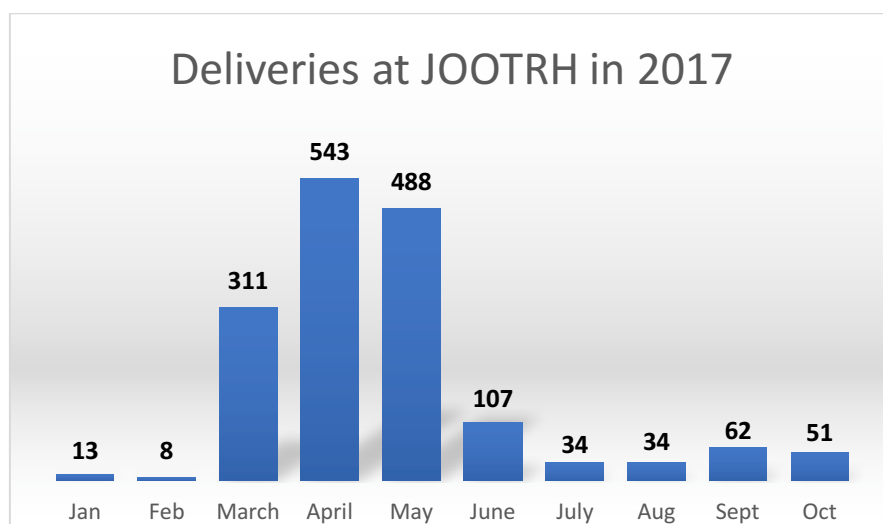


Figure 3: Graph showing deliveries per month in 2017 at JOOTRH

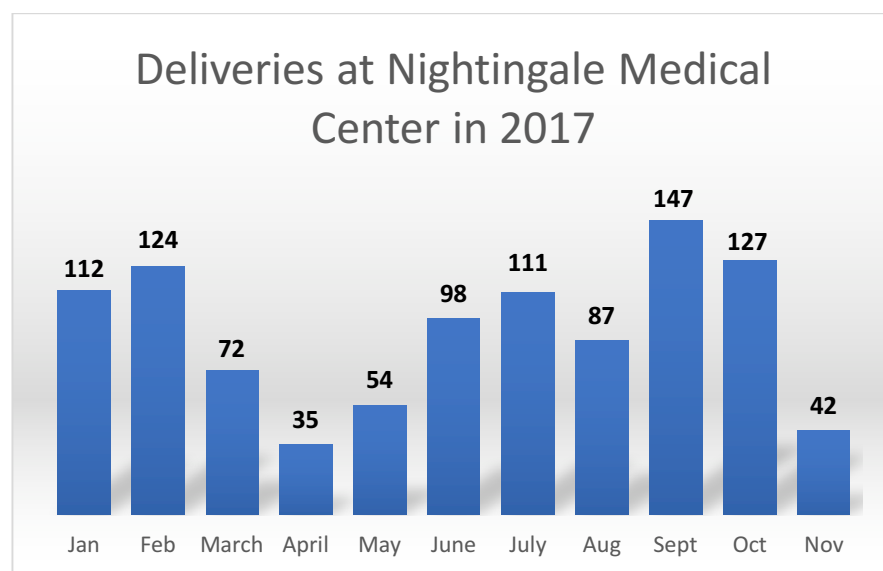


Figure 4: Graph showing deliveries per month in 2017 at Nightingale

There is a clear increase in the number of deliveries at JOOTRH during March, April, and May, the months in between the doctor's and nurses' strikes. During these months, the public facilities were operating normally, so they were able to provide delivery services. There is a comparable decrease in delivery services at Nightingale during March, April, and May, caused by the reopening of public facilities at full capacity. These graphs clearly show the impact of the public health workers' strikes on access to services at both public and private facilities. The public nurses ended their strike in early November, corresponding to a decrease in deliveries at the private facility that month. The research team calculated the percent change in delivery services for both facilities. The months were split into three categories: doctor's strike (January and February), normal (April through May plus November), and nurses' strike (June through October). March is left out of the data because the doctor's strike ended March 15th, so the month was half doctor's strike and half normal, which would skew the data for either applicable category. The average number of deliveries of each category of months was calculated, with the normal month category serving as the "original" amount for the percent change calculation. Tables 1 and 2 show the average deliveries and percent changes in service delivery for JOOTRH and Nightingale Medical Center, respectively. As seen in Table 1, delivery services at JOOTRH decreased 97.96% during the doctor's strike and 88.83% during the nurses' strike. Subsequently, as shown in Table 2, delivery services at Nightingale increased 170.64% during the doctor's strike and 161.47% during the nurses' strike.

| JOOTRH | | |
|----------------------------------|-------------------------|---------------------------------------|
| Month | Average # of Deliveries | Percent Decrease in Delivery Services |
| Jan-Feb (doctor's strike) | 10.5 | 97.96 |
| April-May (normal) | 515.5 | NA |
| June-Oct (nurses' strike) | 57.6 | 88.83 |

Table 1: Comparison of Average Deliveries at JOOTRH in 2017

| Nightingale Medical Center | | |
|----------------------------------|-------------------------|---------------------------------------|
| Month | Average # of Deliveries | Percent Increase in Delivery Services |
| Jan-Feb (doctor's strike) | 118 | 170.64 |
| April-May, Nov (normal) | 43.6 | NA |
| June-Oct (nurses' strike) | 114 | 161.47 |

Table 2: Comparison of Average Deliveries at Nightingale Medical Center in 2017

While seeing such drastic decreases in service delivery, JOOTRH reported a total of 14 maternal deaths this year. The majority of these deaths happened while the hospital was fully functioning, thus when the hospital saw the most deliveries. These 14 deaths are compared to a total of 1,485 live births. There is a lot of nuance with maternal mortality statistics here, due to the abnormally low number of live births to which to compare the number of maternal deaths. According to UNICEF (2017), Sri Lanka sees 30 maternal deaths per 100,000 live births. This means Sri Lanka sees about the same number of maternal deaths per 50,000 live births as JOOTRH saw in 1,485 live births. This does not account for maternal deaths at other health facilities or in the community. When these data are scaled up to the standard expression of maternal deaths per 100,000 live births, the results are scary. At JOOTRH, the maternal mortality ratio as of October 2017 would be 942 deaths per 100,000 live births. There are a few things that

this information gives us. First, the true maternal mortality takes into account all maternal deaths and live births in the region being studied, not just that of one health facility. Second, while the maternal mortality ratio was extrapolated, it is important to note that during this year, nearly one out of every 100 women who delivered at JOOTRH died.

At Nightingale Medical Center, the researcher was able to interview a nurse working in the maternity ward about how the public nurses' strike affected the private facility. As mentioned before, the facility saw a large increase in patients during the strike months, which the nurse said was a large strain on the staff at Nightingale. Delivery services at Nightingale cost 7,000 KSh, which is a large sum of money for many people, especially when the preferable option is free. When asked if the cost was a burden on patients, the nurse explained, "someone will come, we examine, we see that she is in labor, so when you ask her to pay, they want the amount paid before she is admitted, some of them have to go because they have nothing. So, I've seen most of them being turned away." This, she later elaborated, resulted in some women coming in at second stage labor, when the baby is coming out, because "you can't tell her to leave, you have to deliver the baby. So, afterwards is when she says she has no money, I can't pay for that." This is risky behavior, but shows the desperation caused by the strikes. The inability to pay for services created an added layer of congestion at the private health facility. If a woman delivered at the facility because she arrived in second stage labor and later revealed she could not pay, she was not allowed to leave the facility. The nurse reported that, "some of them would stay here for even one week, and you know, we need that bed because we have more [women]." Nightingale would request the women to come up with 3,000-4,000 KSh to pay for services and then they would be released. If they could not do this, and the beds were filling, "some of them signed a form saying they will pay after... they leave their ID cards, something like that." Problems like

an overcrowded maternity ward, overworked staff, and discrepancies in payment fell upon health facilities like Nightingale very hard.

In addition to the pressures on the private health system, women in the community felt the burden of inability to access the care they desired or pay for the care they needed. When asked if she thought TBAs had taken on a larger role in women's health during the strike, the nurse at Nightingale responded yes without hesitation. She explained, "We had those who came who were born before arrival, so they gave birth at home. Some the baby was stuck so they came to be delivered, others the placenta did not come out, some were bleeding, so I know most of them chose to give birth at home because the private [facilities] are so expensive." She also reported seeing many women referred to Nightingale from other private facilities after being mishandled there. She explained that when the facility knows you do not have money, they do not always treat you well. The discrimination resulted in health problems, like one woman who was in labor for three days. "Women really suffered," she said simply. When asked about ways to prevent strikes in the future, she replied, "There's only one way, they have to sign the CBA (Collective Bargaining Agreement) and give nurses, especially medical workers, their rightful salary. They promise it will be signed later then it is not signed so they still go back on the streets."

On a smaller scale, the research team was able to access maternity service data at Nyalenda Health Center and interview the nurse in-charge about the effect of the strike on the facility and the community's health. The maternity ward officially opened May 26th, 2017, just a few days before the nurses' strike began. Before this, the facility set up a room as a makeshift delivery room, but were able to build an entire maternity ward this year. The facility has three deliveries in May, two deliveries in June, and five deliveries in November. During the months of

July, August, September, and October, the primary months of the nurses' strike, the health facility saw no deliveries. The antenatal, child welfare, family planning, and vaccine clinics were shut down because they were predominately run by nurses. Outpatient services, like HIV treatment, however, were still open because the clinical officers and lab technicians were still at work. According to the nurse in-charge, there are 16 CHVs connected to the facility with the primary role during the strike of communicating what services were not provided and advising people to seek services elsewhere. This is, unfortunately, a waste of talent and dedication to health. CHVs can provide vital health information and referrals to community members when they are having health problems. While CHVs usually spend their time educating their communities and providing them with a key link to the formal health sector, during strike months they mainly had to inform people that public facilities were likely not offering many services and, if affordable, to go to a private clinic. When asked about ways in which healthcare worker strikes can be avoided in the future, the nurse in-charge had a simple answer: "the nurses are overstretched." To elaborate on the problem, she explained:

We have a maternity that is meant to be running 24 hours. The maternity cannot run 24 hours. We are able to do 12 hours, meaning we will only receive a patient in the morning and probably discharge in the evening. Ideally a woman should take 48 hours in maternity. Many times, a staff [member] would have to stay to wait for this woman to be discharged the next day. So, the moment this staff stretches, now you have to give them off because it's like you've worked 24 hours without a break, [when] you're meant to work for 8 hours. So, if the government would work on the staffing then it would lessen the burden of things like strikes.

Nyalenda Health Center is a notably smaller clinic than JOOTRH or Nightingale, but it shows how widespread the effects of the nurses' strike were. Nyalenda saw a full shutdown of maternal care services, which is likely the case for many smaller health clinics. With less of the burden of maternal care services spread out around smaller facilities and larger ones like JOOTRH, it is

likely JOOTRH was one of the only public facilities that had the staff to provide services, which would create congestion at the facility. Nyalenda's case also provides important insight into how nurses' struggle with being overworked, a major factor of the CBA the government signed in November to end the strike.

Conclusion

The nurses' strike had a clear negative effect on maternal care in Kisumu. Many women were forced to change their plan and deliver at private health facilities, resulting in an unnecessary expense of thousands of shillings. For some women incurring such a debt was simply not an option, and they were turned away from private facilities. Inability to access health facilities is in direct opposition to efforts to reduce the maternal mortality ratio. In addition, when public health facilities are not functioning at full capacity, and those who cannot pay are turned away from private facilities, CHVs cannot play their pivotal role in the health system. CHVs are extremely skilled in changing health behavior, but with a paralyzed health system, a key piece of the health system breaks down. It is imperative that Kenya's government work to strengthening the health system in efforts to avert future strikes. Investing in increased wages, hiring opportunities, and trainings for healthcare workers is the only way to prevent future strikes and work toward meeting health development goals. An investment in the health system is an investment in the country; when people are healthy, they can work longer and improve the economy. When the health system is strong it can move more strongly toward prevention of diseases and illnesses, which ultimately saves money and time.

Recommendations for Future Studies

This project was conducted in just one month, so expanding the length of this project would allow the research team to contact more women, more health facilities, and gather more data to truly understand the effect of the strike on maternal and child health. Conducting a similar evaluation in another region of Kenya would also be beneficial, especially considering this strike most likely had a greater effect on rural communities as they are typically farther away from health facilities and do not have as many options for facilities. Rural communities are also more likely to utilize traditional medicine because they typically tend to be more conservative areas. These views may result in stigma around things like being naked while delivering or having male nurses help in delivery. Utilizing Kenya's HDSS information would also be valuable to a future study because it provides month-to-month mortality statistics based on community reports. This would provide a lot of insight into whether the actual maternal mortality ratio increased during the strikes.

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Appendix A: Consent Form in English

CONSENT FORM

1. Brief description of the purpose of this study

The purpose of this study is to evaluate the effect of the 2017 nurses' strike on maternal care and mortality in Kisumu, Kenya. With many hospitals not functioning at full capacity, this study will inquire if expecting mothers are able to access both the antenatal care and delivery services they desire. The study aims to understand if there is a decrease in hospital births and a residual increase in complications and maternal mortality while the public hospital nurses are on strike. The study will primarily use interviews with Community Health Volunteers, Traditional Birth Attendants, and mothers who will give or have given birth during the time of the strike in efforts to understand the strike's impact on communities.

2. Rights Notice

In an endeavor to uphold the ethical standards of all SIT ISP proposals, this study has been reviewed and approved by a Local Review Board or SIT Institutional Review Board. If at any time you do not wish to answer a question, you have the right to decline to answer. If at any time you feel that you are at risk or exposed to unreasonable harm, you may terminate the interview. Please take some time to carefully read the statements provided below.

- a. **Privacy** - all information you present in this interview may be recorded and safeguarded. If you do not want the information recorded, you need to let the interviewer know.
- b. **Anonymity** - all names in this study will be kept anonymous unless the participant chooses otherwise.
- c. **Confidentiality** - all names will remain completely confidential and fully protected by the interviewer. By signing below, you give the interviewer full responsibility to uphold this contract and its contents. The interviewer will also sign a copy of this contract and give it to the participant.

Participant's name printed

Participant's signature and date

Interviewer's name printed

Interviewer's signature and date

Appendix B: Consent Form in Kiswahili

FOMU YA IDHINI

1. Maelezo mafupi kuhusu lengo la huu uchunguzi.

Lengo la uchunguzi huu ni kutadhimini madhara ya mgomo wa wauguzi wa mwaka wa 2017. Kwa mgomo wa huduma ya ujauzito na vifo katika Kisumu katika Kenya. Kwa sababu hospitali nyingi hazifanyi kazi kikamilifu huu uchunguzi utataka kujua kama akina mama wajawazito wanaweza kupata huduma za ujauzito na kuzaa wanavyostahili. Uchunguzi huu unalenga kufahamu kama kuna upungufu wa idadi ya akina mama wanaozalia hospitalini na kama kuna ongezeko la matatizo ya kujifungua na vifo wakati wa kujifungua wakati wauguzi wa hospitali za serikali wanagoma. Uchunguzi huu utatumia kimsingi mahojiano na wajitoleaji wa afya ya jamii, wakunga wa kienyeji na akina mama ambao watazaa au washazaa wakati wa mgomo. Kwa juhudi za kuelewa madhara ya mgomo kwa jamii.

2. Haki za ilani

Katika juhudi za kutekeleza viwango vya maadili ya mapendekezo yote ya uchunguzi wa SIT. Huu uchunguzi umekaguliwa na kupitishwa na kamati au taasisi ya uangalizi ya SIT. Kama kwa wakati wowote ule hutaki kujibu swali, una haki ya kukataa kujibu. Kama kwa wakati wowote ule unahisi kwamba uko hatarini unaweza kukatiza haya mahojiano. Tafadhali chukua wakati wako kwa makini usome maelezo hapo chini.

- a. **Faragha**- maelezo yote utakayotoa katika mahojiano haya yanaweza kurekodiwa na kuhifadhiwa. Kama hutaki maelezo haya kurekodiwa unahitaji kumwelezea mwenye kukuhoji.
- b. **Kutojulikana**- majina yote katika huu uchunguzi hayatajulikana (yatabaki siri) isipokuwa kama muhusika anaamua yajulikane.
- c. **Usiri**- majina yote yatabaki siri kabisa na yatalindwa na mwenye kuhoji. Kwa kutia sahihi hapo chini unampa mwenye kukuhoji jukumu kamili ya kutekeleza huu mkataba na maelezo yaliomo. Mwenye kukuhoji atatia sahihi kwenye hii nakala (kopi) na kumkabidhi mhusika (mhojiwa).

Jina la mhusika (mhojiwa)

Sahihi na tarehe ya mhusika (mhojiwa)

Jina la mwenye kuhoji

Sahihi na tarehe ya mwenye kuhoji

Appendix C: Interview with mothers who gave birth during the strike (from June 5 – Nov 3)

1. What number pregnancy is this?
 - a. If not first, where did you deliver your other pregnancies?
 - b. Were any of your previous pregnancies complicated?
2. How old is your baby?
3. Where did you give birth?
 - a. Was this where you wanted to give birth?
 - b. If not at health facility, was your delivery attended by a TBA, family member, no one?
4. Did you plan on giving birth in a health facility? / Ulipanga kuzaa katika kitua cha afya?
 - a. If not, why? / Ikiwa hapana, kwa nini?
5. Was your delivery complicated? Did you have any problems during your delivery?

Appendix D: Interview with expecting mothers

1. What number pregnancy is this?
 - a. If not first, where did you deliver your other pregnancies?
 - b. Were any of your previous pregnancies complicated? / Did you have any problems during your previous pregnancies and deliveries?
2. How many months pregnant are you?
3. Have you been to the doctor during your pregnancy for antenatal visits?
 - a. If so, how many? Which facility?
 - b. If not, why?
4. Where do you plan to delivery this baby?

Appendix E: Interview with private health workers

1. Have you seen a general increase in patients seeking care here since the public nurses' strike?
2. Has the facility had trouble attending to an increase in patients?
3. Have there been problems with people being able to pay for services?
 - a. What does the hospital do to help these patients? (payment plans, payment assistance)
 - b. Does it appear that during the nurses' strike coming to private facilities is a financial burden on patients/families?
4. During the nurses' strike do you think TBAs have taken a larger role in healthcare for women or has it mainly been private facilities?
5. Is the TBA referral program in place with private facilities as well?
6. Do you have any thoughts on ways the government and the public health sector can prevent future strikes?

Appendix F: Interview at public health facilities

1. What kinds of services was the facility providing during the nurses' strike?
2. Did you have to turn any patients away, specifically pregnant women, women in labor, children seeking vaccines?
3. Does your facility have CHVs connected to it?
 - a. If so, what was their role during the strike? Were you communicating with them?
4. In general, do you think the program where TBAs are encouraged and reimbursed for bringing women to deliver at health facilities has been successful?
5. During time like the nurses' strike, do you think TBAs have taken a larger role in healthcare for women?
6. Are there any plans to integrate TBAs into the health sector more? For example, training them to be midwives, having TBAs deliver women in a room at the hospital so that if complications arise, the medical doctors are near?
7. Do you have any thoughts or ideas about the best ways the health sector and the government can prevent future strikes?