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PARALLEL DILEMMAS: POLIO TRANSMISSION AND POLITICAL VIOLENCE IN NORTHERN NIGERIA

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> [Minister of Health Professor Onyebuchi] Chukwu stressed that some miscreants were jeopardizing the efforts of government by spreading lies about the immunization campaigns thereby misleading the people … He said, 'Criminals will not deter our progress, they will not stop our good work, and government will not tolerate the actions of those who seek to misinform the public.' He also warned the media houses who are used to perpetuate such information to beware and cautious before publishing such information or face sanctions … (Leo and Okafor 2013)
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> The new Director of Defense Information Brigadier General Chris Olukolade said at [a] media briefing in Abuja that the Boko Haram sect will soon be defeated. 'From the expectations of the DHQ, the war against Boko Haram is ending. The end is near for the trouble makers.' (Bashir 2013)

Following the successful eradication of smallpox in 1980, the World Health Assembly voted in 1988 to implement a campaign to eradicate poliomyelitis by the end of the year 2000. While this deadline has been revised several times, the number of confirmed cases of wild poliovirus (WPV) worldwide has declined considerably, with only 223 confirmed cases of WPV recorded in 2012 (CDC 2013). Of these cases, 217 were identified in three countries where polio is endemic – Afghanistan (37 cases), Nigeria (122 cases) and Pakistan (58 cases) – and where political insecurity associated with Muslim groups opposed to their respective federal governments has contributed to the difficulties in concluding the Global Polio Eradication Initiative (GPEI). However, in 2013, there were significant declines in confirmed WPV cases in both Afghanistan (14) and Nigeria (53); only Pakistan saw an increase to 93 cases in 2013. Yet while there were only six cases of WPV in non-endemic countries in 2012, in 2013 the majority of cases occurred in two countries where polio transmission had ended, namely Somalia (190 cases) and Syria (23 cases), both countries experiencing political insecurity (CDC 2014). Nonetheless, these very small numbers of confirmed cases of WPV globally have encouraged international health officials to refocus their efforts on ending WPV transmission by the end of 2015, while the Eradication and Endgame Strategic Plan 'aims to certify all regions of the world polio-free … by 2018' (WHO 2013b).

Regarding Nigeria, the authors of the International Monitoring Board (IMB) 2012 assessment report, *Polio's Last Stand?*, wrote that 'With its personnel surge and well-constructed plan, the Nigerian Programme may be on the brink of a breakthrough. Over the next six months, the world will be watching'

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(WHO 2012: 6). Yet this endeavour is not a simple one because of logistical and infrastructural challenges in Nigeria – poor roads, intermittent electricity, and difficulties in maintaining a cold chain. Indeed, the IMB team noted the need for health workers to address specific community infrastructural needs:

> The Programme must open its ears fully to understand what is top – the unique needs of every community – and respond to these needs. A community furious at the amount of rubbish on their streets? Send in sanitation lorries with the polio vaccination teams. A village with no clean water? Offer chlorine as well as polio vaccine … (WHO 2012: 30)

Implementation of such recommendations is easier said than done. For example, sanitation lorries may not be available in remote rural communities and the issue of clean water may be more complicated than just distributing chlorine tablets. Some communities lack any source of water, particularly during the dry season (Renne 2010: 124).

These problems and continuing pockets of parental resistance to polio vaccination in northern Nigeria have been compounded by violent opposition to the Nigerian government associated with the Islamic reform movement Jama'atu Ahlis-Sunnah Lidda'awati wal-Jihad ('People Committed to the Propagation of the Prophet's Teachings and Jihad'), colloquially referred to as Boko Haram (literally, 'Western education is forbidden'; Cooke and Tahir 2012: 12–13). This group, which began in Borno State in the north-east in 2003, has spread to other parts of northern Nigeria, precisely where WPV transmission continues. Since 2009, police and the military have sought to quell the bombing of government buildings as well as shootings of officials and armed forces personnel through mass arrests and house-to-house searches. The Nigerian government's containment measures have focused, unsuccessfully to date, on stopping political violence associated with Boko Haram. Furthermore, it is precisely this political violence that is impeding polio eradication efforts, particularly in Borno, Yobe, and Kano States. Indeed, how the Nigerian government – including both medical and military officials – addresses these related health and political problems will affect the successful conclusion of WPV transmission in Nigeria. In this paper, I consider these two related aspects – parallel dilemmas of pockets of low polio immunization and continuing political violence – that confound the conclusion of GPEI efforts in Nigeria. First, health and government officials' efforts to stop polio transmission through their attempts to suppress opposition to the polio eradication campaign by threatening non-compliant parents with arrest (IRIN 2011), by closing down media outlets that air programmes that express opposition to the polio campaign (*Sunday Trust* 2013a; *Vanguard* 2013) and by using security agents to question individuals opposed to the campaign (Sa'idu 2013) may frighten some parents into compliance but also breed resentment and resistance. Second, the actions of the Joint Task Force (the JTF, a select group of military and police) and, at times, their extreme measures to stop Boko Haram terror, referred to in one editorial as 'endemic' in the northern states (*Sunday Trust* 2013b), include house-to-house sweeps with widespread arrests, harassment of Boko Haram sympathizers and extrajudicial killings, which lead to the citizenry being terrified both by Boko Haram activists and by government JTF soldiers and police. Both situations raise difficult ethical questions and suggest that citizens' trust in their government, which depends upon its ability to attend to their well-being – as evidenced by the provision of basic services and of a

modicum of security – underwrites their support (or subversion) of government efforts (Masquelier 2012: 231).

Yet the position of the GPEI differs from the equally unstable political conditions during the final years of the Smallpox Eradication Programme (SEP) in Nigeria, which coincided with the Nigerian Civil War (1967–70); in October 1968, those representing the Republic of Biafra – the south-eastern secessionist group – asked the International Committee of the Red Cross (ICRC) and the World Council of Churches to enter the area to carry out smallpox and measles vaccination (Fenner *et al.* 1988: 883). In the present situation, such an arrangement would be impossible as Boko Haram's main targets are government officials, soldiers, police, government offices and sometimes schools. In June 2011, Boko Haram took responsibility for the bombing of the UN building in Abuja, which killed twenty-three people, including five members of the GPEI team (CDC 2011). A government-sponsored programme such as the GPEI would not likely be given permission in the current anti-government environment to safely carry out polio vaccinations in areas where Boko Haram members are active. In other words, the possible solution of one problem – the ending of WPV transmission – depends upon some form of solution to the other, i.e. the violent anti-government activities of Boko Haram. While the Presidential Committee on Dialogue constituted in April 2013 by President Goodluck Jonathan to meet with members of Jama'atu Ahlis-Sunnah Lidda'awati wal-Jihad (Boko Haram) and Jama'atu Ansarul Muslimina Fi Biladis Sudan (Ansaru, a Boko Haram splinter group; Chothia 2013) represented a significant step in addressing these twin dilemmas (Wakili and Mukhtar 2013), it is unclear how the President's declaration of a state of emergency in three north-eastern states in May 2013 has affected these negotiations (Wakili *et al.* 2013). However, the chairman of the committee, Alhaji Tanimu Turaki, interviewed in December 2013, was optimistic about the committee having established contacts with members of these groups (Abbah and Odunlami 2013). This paper concludes by raising questions about the ethics of coercion in public health practice and about indiscriminate military actions that contribute to citizens' mistrust of their government.

PUBLIC HEALTH DILEMMAS AND THE SMALLPOX ERADICATION PROGRAMME

The urgency of eradication efforts in northern Nigeria is reminiscent of the situation during the final years of the SEP, from 1973 to 1975, when the forced vaccination of adults and children was carried out, mainly in Bihar State, India, and in Bangladesh. In an often-cited work, Greenough (1995) discusses the human rights dilemmas faced by US physician-epidemiologists, who had been brought in to oversee local health department efforts. At times, foreign public health officials used their distinctive position as American medical professionals to reinforce their authority to break into houses, hold down recalcitrant individuals, and override local public health officials' concerns. Their policy of containment of infected villages was considered justifiable; as one doctor explained, 'Known infected villages were revisited – often repeatedly – to check for new cases or left-outs. Almost invariably a chase or forcible vaccination ensued in such circumstances' (S. Music, cited in Greenough 1995: 636). This same

doctor described his unease with forcibly vaccinating for smallpox an elderly Bangladeshi woman dying from tuberculosis in 1973:

> She asked if I had brought her any food. I said no. She refused vaccination … I said that if she remained unprotected, she stood a good chance of getting smallpox … She said that if I didn't care whether or not she died of starvation, why should I care if she got smallpox! (Greenough 1995: 636)

Greenough observed that this woman's response – her refusal to receive a smallpox vaccination – was common among the poor who could not see how such a health campaign would benefit them.

Such responses relate to public health discussions of individual versus community rights regarding health. While some public health practitioners consider the vaccination of children as the most equitable and effective approach and one that takes precedence over the wishes of individual parents, others see parental input in public health campaigns as critically important (Bradley 2000). In the case of the GPEI in Nigeria, it was the former strategy that was followed. When the 1988 World Health Assembly in Geneva voted to eradicate polio, the decision was approved by Nigerian government officials; neither local government nor community input into this decision was sought. This disjuncture between African states' acceptance of global public health policies at the federal level compromises the position of local government officials, who may be forced to 'work off the record' in order to meet the different demands for healthcare of federal health officials and of their constituents (Leonard 2011). Indeed, many Nigerians expect that their government will provide a modicum of primary healthcare, freely available to its citizens, rather than a focus on a single disease. Thus, like the older woman who refused smallpox vaccination unless she first received food, some Nigerian parents decided not to participate in the GPEI, on the grounds that their government was behaving irresponsibly by neither providing primary healthcare nor addressing their main health concerns – malaria and measles, diseases that continue to kill their children. Indeed, measles outbreaks have continued since the implementation of the GPEI, in part because measles vaccination was not initially part of the campaign and also because of low levels of immunization generally; a recent measles outbreak occurred in March 2013 in Kano State (Adamu and Ahmadu-Suka 2013). Similarly, in Nigeria, malaria programmes have not made a significant impact on child or maternal mortality attributed to malaria (Leo 2013).

VACCINATION BY PERSUASION AND BY FORCE IN NIGERIA

The GPEI, as implemented in Nigeria, differs in other ways from the earlier SEP. Unlike the widespread participation of expatriate medical personnel in the SEP, the polio campaign has employed mainly Nigerian health workers in its immunization efforts. In northern Nigeria, where the majority of WPV cases have been identified, programme officials have relied on several persuasive methods. These tactics have included community rallies, solicitation of the support of Muslim teachers and religious leaders, and, after 2006, the provision of a range of health incentives – deworming medications, soap, measles vaccination, and

insecticide-treated bed nets, as well as the showing of polio education *majigi* (open-air) films (Nasiru *et al*. 2012). More recently, in June 2013, the industrialist Aliko Dangote announced a plan to provide cooperating mothers with his products – sugar, salt and macaroni (Danjuma 2013). In November 2013, one local government chairman in Sokoto State not only agreed to community demands for an improved road but also gave one mother the 10,000 naira (approximately US$60) she demanded before allowing her children to be vaccinated (Muhammad 2013). However, along with house-to-house Immunization Plus Days, food donations and infrastructure improvements, more coercive measures have been implemented in some communities with low levels of immunization and where parents have continued to resist the polio initiative. For example, in Kano, Kwara, Zamfara, Gombe and Niger States, parents can be arrested for failure to vaccinate their children. In early September 2013, Niger State government officials amended the Healthcare Development Agency law to include jail sentences (of ten years) or fines (100,000 naira) for any 'cleric found guilty of preaching against the immunization of children in the state', while parents failing to vaccinate their children would be jailed for six months or fined 10,000 naira (Hamagam 2013).

In some areas, parental permission is circumvented altogether through the mass immunization of children on public transport vehicles or in public areas where they congregate, using biscuits or sweets as an incentive. As one vaccination team leader in Kaduna State described:

> Now another strategy we have – we have a team who just immunizes children in the street. We find an elderly woman within the community, maybe she was a TBA [traditional birth attendant] for a long time so no one would shout at that woman if she gave OPV [oral polio vaccine] to the children. We used biscuits there; immediately after vaccinating she would give a biscuit to the child. That child will bring more children, without consulting the mother; they will just come. (Interview: Zaria, 27 June 2009)

However, this method of enticement backfired in Niger State. When rumours that 'children could be initiated through petty offerings of sweets and biscuits' into secret cults (a practice called *shafi milera*) began to spread, the Niger State Immunization Plus programme stopped using the practice (Leo and Okafor 2012).

Another means of increasing immunization levels of children under five years of age was by vaccinating those who were attending nursery schools, initially without parental consent; after parental complaints, this policy was later revised to allow parents who did not want their children vaccinated to instruct the school authorities of their wishes by letter (Renne 2012).

The principal problem for GPEI officials, however, has been the dysfunctional primary healthcare system, particularly in rural areas in northern Nigeria where private health clinics are not available (Adamu 2011; FBA 2005; Omoniyi 2012). In some rural communities, local clinics are closed or lack personnel or provisions. When parents take their children for vaccinations, they may find 'stock-outs' and so they are forced to return. Indeed, members of the 12th Expert Review Committee, a committee set up to monitor the progress of polio eradication efforts in Nigeria, noted such ubiquitous stock-outs: 'However much the improvement in coverage, particularly in northern states, has been a result of

the IPDs [Immunization Plus Days] … there is not yet a robust programme for the routine delivery of immunization services in several states. Vaccine stock-outs remain common' (NPHCDA 2007: 8). During the federal and state elections in 2011, there were frequent stock-outs, while post-election violence in several northern Nigerian states also hampered immunization efforts. Furthermore, the irregular supply of electricity makes it difficult to maintain regular, viable supplies of vaccines. Parents who want basic healthcare available free of charge or for a small fee may object to polio workers coming from house to house to provide polio vaccines without charge if they fail to provide treatments and preventative support – malaria medications and measles vaccines – for more pressing health-care needs. As one farmer living near Ahmadu Bello University in Zaria explained:

> No, I don't allow my children to have the vaccine because I don't trust the vaccine. Because they said they are going to do it free of charge. And if we go to the hospital, we have to buy medicine and it is costly there. But this one is free of charge – in the hospital, your child can die or your brother can die if you don't have money. (Interview: Samaru, Kaduna State, September 2005)

This man's dissatisfaction with the failure of the federal and state governments to provide basic primary healthcare exemplifies an attitude that has contributed to continued resistance to the polio campaign. An incident in Kano State in 2011 further illustrates this discontent:

> The only dispensary at the village has been under lock and key for years, with no medical personnel attending to the health needs of the community … All attempts to get local or state government to put the structure to use for the benefit of the community have proved abortive, residents said … [Despite] the seeming unconcern about their health needs nonetheless, government keeps posting vaccinators with the objective of eradicating polio, whom the residents consistently [reject]. They said their rejection was in a bid to subvert the initiative so that by government failing in the cause, they will … exact a payback for the suffered neglect. (Adamu 2011)

Elsewhere in northern Nigeria, village heads demanded that health personnel provide boreholes or bridges before polio vaccination teams were allowed to enter the village (MM, personal communication, 2012; Ibrahim 2013). Thus, the northern Nigerians' lack of interest in polio as a public health concern compared with other childhood diseases and government officials' inability to reconstitute a working public health system and basic infrastructure have undermined the government's credibility there.

POLIO IMMUNIZATION, POLITICAL INSECURITY AND POVERTY IN NORTHERN NIGERIA

The GPEI was officially begun in Nigeria in 1996 during a period of political turmoil. In the period from 1992 to 1993, Nigeria had three heads of state, along with an annulled election that generated widespread political unrest. Following the government takeover by General Sani Abacha in November 1993, the National Programme on Immunization (NPI) was established in 1995; this enabled federal responsibility for immunization activities, including the polio

eradication campaign. The NPI operated as an independent agency, whose director was appointed by and responsible to the Nigerian head of state (FBA 2005). One year after the NPI was launched, it came under the direction of Dr Dere Awosika, who continued in this position under three successive heads of state.

General Abacha's death in June 1998 marked the country's move towards democratic rule. This had two important consequences for the GPEI in northern Nigeria: one operational, the other political. When General Olusegun Obasanjo was inaugurated as president in May 1999, he appointed Professor Eyitayo Lambo as the new Minister of Health, and Dr Awosika continued as head of the NPI. The control of healthcare administration by these two southern Nigerians angered northern health professionals who resented their control of programme resources. Later, this north–south tension was exacerbated by the May 2003 presidential election, in which President Obasanjo, seeking re-election, defeated a popular northern Nigerian candidate, General Mohammadu Buhari. It was following this election that underlying parental resistance to house-to-house vaccination was taken up by political and religious leaders in Kano, the largest urban metropolis in northern Nigeria. Their increasing resentment at their political marginalization combined with grass-roots suspicions about the polio eradication initiative and vaccine safety led the head of the Supreme Council for Sharia (Muslim law) to call for a suspension of polio vaccination (Babadoko 2003).[1] The governor of Kano State, Ibrahim Shekarau, subsequently announced that polio vaccination in Kano State would be halted until tests could be conducted to confirm vaccine safety (Obadare 2005). After several months of tests carried out in Nigeria, South Africa and India, the late Alhaji Muhammadu Maccido, the Sultan of Sokoto and head of Muslims in Nigeria, announced in March 2004 that the 'oral polio vaccine is safe'. This endorsement did not convince some, although the situation was eventually remedied by the importation of polio vaccines from Indonesia in May 2004. The governor later agreed to resume polio vaccinations in Kano on 29 July 2004. The eleven-month Kano boycott had significant consequences for the GPEI: confirmed WPV cases increased in subsequent years, from 355 cases in 2003 to 782 cases in 2004 and 830 cases in 2005 (CDC 2014).

In 2006, after Dr Awosika was forced to resign as a result of donor pressure in December 2005 (Magone 2011: 132), she was replaced by Dr Edugie Abebe. While serving as acting director of the NPI, Abebe instituted the popular and effective Immunization Plus Days programme in June 2006, which was evidenced in the decline from 1,112 cases in 2006 to 285 cases in 2007 (CDC 2014). However, with the election of a new president, Umaru Yar'adua, in 2007, the NPI was merged within the National Primary Healthcare Development Agency (NPHCDA); this was directed by Mrs Titilola Koleoso-Adelekan, who had been a political appointee of President Obasanjo. Dr Abebe subsequently resigned (Renne 2010: 48). However, Koleoso-Adelekan was dismissed in October 2008

[1]One UNICEF official suggested that there was a vindictive motive behind this move, after 'a wealthy Kano doctor who was both head of a campaign to impose Islamic law in northern Nigeria and a candidate for a top job in the national health department' was passed over for the appointment (Dugger and McNeil 2006: A14).

and was replaced by Dr Muhammed Ali Pate, who was named the Minister of State for Health in July 2011. His appointment defused, to some extent, the politics reflected in the north–south tensions associated with the polio programme, although his resignation in July 2013 suggests that these tensions continue (Magashi 2013).

Despite the resolution of the Kano boycott and the decline in confirmed cases of polio following the introduction of Immunization Plus Days, many parents in Kano and elsewhere in the north have continued to refuse to allow health workers to immunize their children. This resistance reflects parents' continued suspicions of Western health interventions. Their knowledge of the Trovan® (trovafloxacin, an antibiotic) drug trial, organized by the US pharmaceutical corporation Pfizer, Inc. and carried out by state health officials in Kano during the 1996 cerebrospinal meningitis epidemic (Renne 2010: 107–9), in which eleven children died, led many to suspect programmes in which vaccines were provided free of charge (Frishman 2009). While an out-of-court settlement for US$75 million was reached in 2009 (*Washington Post* 2009), the consequences of this failed drug trial, locally referred to as 'Pfizer', have not been forgotten in Kano and have affected polio immunization efforts there (Aliyu 2008).

In addition, parents' distrust of the federal government was underscored by their dislike of President Obasanjo, who was held responsible for the deteriorating health and economic conditions in northern Nigeria (Obadare 2005: 280). The popular northern Nigerian musician Haruna Aliyu Ninji captured their displeasure in a song, describing Obasanjo as going 'all over the world to get people to invest in Nigeria. But the people didn't come and the economy of the country became disabled [*gurgu* – the Hausa word also used for the polio-disabled]. He only gathered the money for himself and left the country for poverty.' In the north, such moral assessments of political leaders (be they Nigerian heads of state or traditional rulers) often have a religious cast. Indeed, in northern Nigeria, Islamic belief and practice have, to a great extent, affected more general attitudes towards the West and to Western ideas and things. It should not be surprising, then, that suspicions about the danger of polio vaccines were voiced by some *malamai* (Islamiyya teachers) whose schools are instrumental in the continuation of a particular social order in northern Nigerian communities in which Islamic faith and practice are paramount (Last 2008). The distrust felt by these men (and others) was voiced in terms of contaminated oral polio vaccine, a fear that raised concerns among a wide range of northern Nigerian Muslims, from villagers to university professors to politicians, suggesting the ways in which religious concerns are intertwined with political interests. The Kano polio vaccine boycott was one example of this dynamic (Ghinai *et al.* 2013).

THE POLITICAL CONTEXT OF BOKO HARAM VIOLENCE

The fact that the 2003 Kano boycott was begun at the instigation of the head of the Supreme Council for Sharia relates to increasing calls for the implementation of Sharia law. While there had been earlier demands for Sharia law during the short-lived democratic Second Republic (1978–83), such demands had been quelled during the periods of military rule that followed. With the establishment of democratic rule in 1999, in the following two years governors of twelve

northern Nigerian states argued that Sharia penal code law be incorporated into the criminal laws in their states (Lubeck 2011). Federal officials acceded to this demand, with the caveat that state residents who were not Muslims had access to state and federal courts. The implementation of Sharia criminal law was also supported by some Islamic reform group leaders as a way of addressing what they saw as the moral decline of Nigeria. Such calls for Islamic reform have a long history in northern Nigeria and often come to the fore during times of perceived political, economic and social disorder. For many unemployed young men in early twenty-first-century northern Nigeria, 'the failure of Western-imposed institutions to meet their material and spiritual needs confirmed that they should recommit themselves to *tajdid* [reform] in order to implement shari'a as an alternative path to realizing Muslim self-determination' (Lubeck 2011: 253).

The Islamic movement Jama'atu Ahlis-Sunnah Lidda'awati wal-Jihad (Boko Haram), is one such example of these reformist aspirations. By 2003, its leader, the Islamic scholar Mohammad Yusuf, had attracted a large following in Maiduguri in north-eastern Nigeria (Anonymous 2012). His support for Sharia law and an Islamic state as well as his anti-government sermons appealed to many. As part of his Salafi teachings, he sought to return to the Qur'ān and Hadīth as the main sources of knowledge, which is reflected in his assessment of Western vaccines:

> For Yusuf modern vaccines are not better than Prophetic medicine,[2] adding that 'black seed', the water from the Zam-zam well near the Ka'ba in Mecca, and olive oil are Islamically proven medications. He also stated that he had read on the Internet that modern vaccines have side effects; hence prophetic medicine is better than modern vaccines. Here Yusuf seems to be echoing the rejection of polio vaccination by some Muslims. Yusuf grandly declared these concepts and theories contrary to Qur'an and Sunna; learning them [or using them] is thus *ḥarām* [forbidden]. (Anonymous 2012: 125)

Yusuf's teachings appear to have affected the acceptance of polio vaccination by his followers in Borno State, and are reflected in the low levels of child immunization there. In March 2006, for example, 44 per cent of children in the state had not received any polio vaccinations (NPHCDA 2006). At a meeting held in October 2006, the chairman of Borno State Committee on the NPI observed that: 'Traditional rulers and parents in Borno State have rejected the vaccination of their children and wards against the deadly polio-virus, claiming that the administration of such vaccines was a "deliberate attempt by the World Health Organization (WHO) to sterilise women [girls] of the state".' The director urged the NPI committee to 'go back to the drawing board to evolve ways to mobilise the people, particularly parents, traditional and religious leaders on the vaccination of their children' (Musa 2006). Nonetheless, confirmed cases of polio have continued to be reported there and, in May 2007, the NPHCDA Expert Review Committee report noted the export of poliovirus from Borno to neighbouring countries, particularly to Cameroon and Chad (NPHCDA 2007).

[2] *The Prophetic Medicine* consists of a compilation of Hadīth (sayings of the Prophet) and portions of the Qur'ān pertaining to illness, which stress the power of prayer in prevention and cure. Readers are told that for every disease, God created a cure – which may consist of prayer alone or may be combined with specific medicinal substances.

However, it was in 2009, with the escalation of political violence associated with Boko Haram, that the polio campaign, particularly in Borno State, was affected more directly. On 30 July 2009, the state government arrested Yusuf and police officials announced that he had been 'killed in [a] shootout between the members of his sect and the police' (Umar *et al.* 2009); others described his death later that day as an extrajudicial killing.[3] After the arrest and death of Yusuf in Maiduguri, police and military officers have been targeted by Boko Haram members, who have carried out a form of guerrilla warfare in retaliation for the death of their leader and the imprisonment of their members. While some believe that politicians are involved in some of these attacks (Mac-Leva 2011), this violence has led to the deaths of those caught in the crossfire. These events have affected polio immunization efforts in Borno in several ways. Immunization team members fear going house to house to administer polio vaccines in these circumstances. In addition, on 1 June 2011, five men, presumed to be Boko Haram members, set the Ministry of Health drug depot in Maiduguri on fire, destroying 40 million nairas' worth of polio, measles and meningitis vaccines (Idris and Ibrahim 2011). Consequently, confirmed cases of polio continue to be reported in the region. In May 2013, Borno and neighbouring Yobe State accounted 'for 69% [of] wild polio cases in Nigeria … In Borno, over 335,000 children (32% of the target population) were missed during the April 2013 campaign' (WHO 2013a).[4]

The violence perpetuated by Boko Haram has been exacerbated by the retaliatory violence of the government's JTF. In 2012, Amnesty International (2012) published a report that provides an example of this circular violence:

> On 9 March 2012, Ali Muhammad Sadiq (31), Ahmed Yunusa (24), Auwalu Mohammed (30) and two other people were shot to death when the JTF opened fire at an NNPC filling station at Rijiyar Zaki, Kano. A nearby police station had been attacked by suspected Boko Haram members and the five men who were staff and customers at the filling station sheltered in the service bay in an underground service pit to avoid the bullets. According to eyewitnesses interviewed by Amnesty International, the JTF entered the service bay and shot directly at the men. Seven people were sheltering in the service bay, five were killed. Ali Muhammad Sadiq was shot five times, including once in the head.[5]

Under such circumstances, it is difficult for parents to know whom they can trust. For example, in Zaria City, a section of the larger town of Zaria in Kaduna State, some families continue to refuse to have their children vaccinated during house-to-house Immunization Plus Days. However, their fear of polio vaccine is paralleled by the fears of residents who have been subjected to house-to-house police searches for those suspected of being Boko Haram members associated with recent bombings in the city (Sa'idu 2012a; 2012b). One Zaria City woman,

[3]In January 2012, the Borno State government paid 100 million naira to the family of Mohammad Yusuf in an out-of-court settlement (Olugbode 2012).

[4]According to the 2013 Nigerian Demographic Health Survey, only 26 per cent of children aged twelve to twenty-three months in Borno State had received the first dose of oral polio vaccine before the survey was conducted in February–June 2013 (NPC, Nigeria, and ICF International 2013).

[5]Amnesty International released a report in March 2014 that documents the continuation of this violence in the first quarter of 2014 (Amnesty International 2014).

who had heard of the killing of polio workers in Kano in February 2013, noted that while women polio workers were afraid to go house to house in her neighbourhood, the families there were also afraid:

> I heard that in Kano there were some polio women killed, about seven of them. And I think that is why women don't want to go around for polio in Zaria City. And you know in our area, the police they went house to house, they arrested the husbands of married women. That is why now, the people in Zaria City, everyone is keeping quiet (*kowa yayi sanyi* – literally, everyone is cold), they are afraid. Recently they [the police] came to our neighbours and arrested some youths, they went off with them. Even in the night, they will come and jump through the roof of the house and enter people's houses and arrest people. But now they have stopped. (Interview: Zaria, Kaduna State, 22 March 2013)

The fact that polio workers, following the Kano killings, are escorted by policemen compounds residents' anxiety and resentment (Isuwa 2013).

POLIO AND POLITICS IN KANO STATE

Kano State has been at the epicentre of WPV since the beginning of the GPEI. While the number of cases in Kano State has declined significantly since the 2003–04 boycott, continued low levels of immunization have contributed to Kano's position as having the highest level of confirmed cases of polio in the country in 2012 (although this number has been surpassed by Borno and Yobe States in 2013). The situation in Kano State reflects the persistent problem of parental refusal, which has put pressure on health team workers as well as supervisors who feel that they must meet monthly immunization goals. This situation has contributed to vaccine dumping, the illicit sales of vaccine and faked finger markings (Adamu 2011),[6] which help to explain the continued transmission of WPV in the area. Subsequently, in October 2012, Kano State Governor Rabiu Kwankwaso announced that:

> Dozens of officials handling polio immunization in Kano State have been fired because they were using the exercise as a 'money-making venture' … Governor Kwankwaso did not give a specific number of the officials affected, but he said they were of the level of director downwards at the state level as well as immunisation officers of the 44 local government areas. (Musa 2012)

This muted resistance on the part of parents, health workers and programme officers in Kano State became openly violent on 18 February 2013 when nine women and one man, who were preparing to go out for polio vaccination rounds in and near the metropolis of Kano, were shot and killed. Many northern Nigerians were shocked by this violence. No group has claimed responsibility for this attack, although some have speculated that Boko Haram members or sympathizers carried it out in reference to the killings of Pakistani polio women

[6]Health workers mark a child's finger with purple ink after the child has received a dose of polio vaccine.

health workers two months earlier, in December 2012 (McNeil 2013).[7] Yet in Nigeria, government officials attributed the Kano killings to another event, namely the airing of a programme critical of the polio campaign on Wazobia, a popular radio station. The two radio journalists, along with the station owner, were arraigned and appeared in court in February 2013:

> The court was told that Rabo had on February 4, refused to allow polio officials to immunize his children, and that when the district head of Tarauni Local Government went to find out his reasons the following day, he [Rabo] conspired with the two journalists who aired a local programme called 'Sandar Girma' [literally, big stick; policemen are referred to as *'yan Sanda*]. The prosecutor added that on the programme, the duo 'discredited the polio immunization programme, defamed the character, reputation and personality of the district head in addition to instigating the attack on the polio officials'. (Adamu and Yaya 2013)

Following the trial, the broadcasting licence of the station was suspended and the station was shut down (*Sunday Trust* 2013a).

However, the escalating attacks on police stations in Borno and Yobe States contributed to President Jonathan's decision to declare a state of emergency in May 2013 in three north-eastern Nigerian states – Borno, Yobe and Adamawa – which was renewed for another six months in November 2013 (Krishi and Sule 2013). Borders have been closed and mobile phone services discontinued, with over 8,000 troops and jet fighters initially involved (Wakili *et al.* 2013). As of December 2013, it was unclear how this situation had affected polio immunization efforts, as communications and news reports were limited, although in late July 2013, the Borno State governor received an award for his work as the north-east's best performing governor in polio eradication for 2012 (*Daily Trust* 2013). Additionally, children from Yobe and Borno States whose parents crossed the border to Niger to escape the state of emergency occupation received doses of polio vaccine and bed nets there (Audu 2013). Four confirmed cases of polio reported in neighbouring Cameroon, associated with Borno State refugees, suggest that WPV continues in north-eastern Nigeria.

The difficulty in ending poliovirus transmission in the north-east reflects the continuing violence and counter-violence there. First, on 2 December 2013, there was an attack on the 79 Composite Group of the Nigerian Army, the 333 Artillery Brigade, and the divisional police headquarters in Bulumkutu, just outside Maiduguri (BBC World News 2013a). Second, on 20 December 2013, there was an attack on the 202 Tank Battalion in Bama (a town about 78 kilometres from Maiduguri; BBC World News 2013b). One may ask, as did Will Ross, the BBC correspondent in Nigeria, 'How is it that significant numbers of well-armed Boko Haram militants are still driving around Borno State causing havoc?' (BBC World News 2013a). Indeed, this situation suggests that this military intervention and state of emergency rule may not be able to provide the security needed to stop polio transmission in north-eastern Nigeria.

[7]Some have attributed the polio health worker killings in Pakistan to CIA sponsorship of a Pakistani doctor's work on a hepatitis B vaccination campaign that served as a cover for the search for the whereabouts of Osama bin Laden in Abbottabad in 2011 (Walsh and McNeil 2012).

PARALLEL DILEMMAS, PARALLEL SOLUTIONS

> Public health measures derive their authority from the police powers of the state, and people do not lightly offer themselves (or their immune systems) to government even when its authority is legitimate. (Greenough 1995)

> BBC Africa analyst Richard Hamilton says it is perhaps no surprise that extremist groups, such as Boko Haram, continue to have an appeal in northern parts of the country, where poverty and underdevelopment are at their most severe. (BBC World News, 2012)

The similarities in the means used by the Nigerian government to contain the transmission of WPV and the political violence associated with Boko Haram relate to questions about the ethics of coercion raised in Greenough's analysis of the concluding phase of the SEP in South Asia. In northern Nigeria, the use of intimidation – of parents, of those involved in public media, of those questioning vaccine safety – by government health officials suggests the sort of public health double standards discussed by Greenough (1995: 643): 'It would be an ethical error to hold that consent to immunization is less important in villages of Bihar and Bangladesh than it is in Birmingham or Buffalo – unless one accepts the ethical partition of the world.' In the US and European context, closing down radio stations for questioning vaccine safety, arresting parents concerned about autism and vaccines – however misguided their beliefs – or distributing sweets to very young children in public places without parental permission would not be acceptable.[8] Yet such intimidating actions are seen as acceptable and necessary by Nigerian health officials (and, indirectly, by their international counterparts), as evidenced by statements from the Minister of Health Onyebuchi Chukwu (Leo and Okafor 2013). Moreover, some Nigerians support both the closing down of radio stations and publishing houses and the silencing of individuals opposed to the polio campaign, particularly when their actions are seen as contributing to the deaths of polio health workers.

Similarly, some Nigerians support the Nigerian government's military tactics in addressing the Boko Haram insurgency, which include the 2013 declaration of a state of emergency. For them, government efforts to end the political violence associated with Boko Haram, which they equate with war, are justified. Unfortunately, the reprisals against civilian populations – the house-to-house searches, the warrantless arrests, and, at times, scorched earth tactics, as were witnessed in Baga in Borno State in April 2013, where 200 people were killed by the JTF (Nossiter 2013a) – not only have tragic consequences for individuals but also terrify local populations and encourage anti-government sentiments. Reports in June 2013 from Nigerian refugees who had fled to Niger following the initial state of emergency decree in the north-east described a chaotic situation (Nossiter 2013c).

[8]Another contradictory practice of the GPEI in Nigeria may be seen in the treatment of Faith Tabernacle Church members in the city of Abakaliki, in Ebonyi State in southern Nigeria (Okafor 2013). Based on church doctrine, many members have refused to have their children vaccinated for polio and their wishes have been respected, while their counterparts in some northern Nigerian states are threatened with arrest. Faith Tabernacle Church members in Abakaliki also refused smallpox vaccination, which led to an outbreak in their community in May 1967; nonetheless, neither children nor parents were vaccinated (Thompson and Foege 1968).

Regarding the state of emergency, in May 2013, John Kerry, the US Secretary of State, condemned 'Boko Haram's campaign of terror in the strongest terms', while also urging 'Nigeria's security forces to apply disciplined use of force in all operations, protect civilians in any security response, and respect human rights and the rule of law' (Nossiter 2013b). Six months later, US State Department officials classified Boko Haram and Ansaru as 'terrorist organizations' (Schmitt 2013), although some State Department officials, like some Nigerians, have argued for a negotiated settlement (Mudashir 2013), which would include political and socio-economic components. In December 2013, the US's UN Ambassador, Samantha Power, called for the Nigerian government to 'fast-track a Northeast development plan' (NAN 2013), although the relatively small amount budgeted for north-east development, 2 billion naira, was seen as an insult by some north-eastern Nigerian governors (Idris *et al.* 2013).

Nonetheless, the inadequacy of a military solution, as reflected by the inability of the JTF and the state of emergency implementation to end violence in the north-east, suggests that a combined political and socio-economic solution is precisely what is needed in order to address the parallel dilemmas of political violence and polio eradication in Nigeria. This solution, however, also requires a working primary healthcare system in Nigeria, as Dr Mohammad Ali Pate, the former Minister of State for Health and the chairman of the Presidential Task Force on Polio Eradication, has observed (Leo 2011). The benefits of working primary healthcare programmes in communities in Borno and in other northern Nigerian states would be twofold. First, such a system would facilitate the possible ending of WPV transmission and could enable post-eradication efforts. Second, it would take up the IMB's directive to 'open its ears fully to understand what is top – the unique needs of every community – and respond to these needs', providing routine immunization and treatments that would address parents' concerns with measles and malaria. Even with the continued rejection of vaccination by some northern Nigerian parents, by attending to parents' health concerns and offering appropriate health incentives, this approach could greatly increase vaccination coverage, as was the case when Immunization Plus Days were first introduced in 2006. Moreover, providing functional primary healthcare programmes to communities in northern Nigerian would serve as a way of addressing, in part, the impoverishment of the north. It is the sort of 'nimbleness' and attention to local conditions that the May 2013 IMB report suggests is necessary to complete the polio eradication initiative in Nigeria. Such 'nimbleness' is reflected in other recent GPEI efforts in northern Nigeria, which include the inclusion of members of FOMWAN (the Federation of Muslim Women's Associations of Nigeria) on polio vaccination teams and the food distribution programme sponsored by Aliko Dangote. Such efforts have helped to keep the number of confirmed cases of polio low in 2013. As of 12 February 2014, there have been fifty-three confirmed cases of the wild poliovirus WPV1 strain, no cases of the wild poliovirus WPV3 strain, and four cases of circulating vaccine-derived poliovirus (from Borno State) in 2013 (CDC 2014a). As of June 2014, there have only been three confirmed cases of the WPV1 strain and seven cases of circulating vaccine-derived poliovirus reported in 2014 (CDC 2014b).

Yet despite these low numbers, the question remains of how political violence and insecurity – and the political-religious anxieties that they reflect – are best addressed, particularly in areas outside the north-east that are unaffected by the

state of emergency order. With respect to Jama'atu Ahlis-Sunnah Lidda'awati wal-Jihad (Boko Haram), Murray Last (2012: 36) has suggested that the government negotiate a resettlement plan to establish rural religious communities and to provide them 'with craft skills, land and water supplies, even electricity', and, perhaps, primary healthcare. While some might argue that such efforts are outside the purview of global eradication interventions, the political and economic contexts in which the GPEI has been carried out have affected its implementation in northern Nigeria. As Taylor (2009: 556) has argued, global health programmes may ultimately fail if they avoid confronting 'underlying social and political issues', preferring instead 'the political safety of educational problems, rather than recognising the wider problems of governance and the distribution of wealth and well-being'.

CONCLUSION

When I asked one Islamic scholar why some northern Nigerian parents have resisted polio vaccination whereas they had accepted vaccination during the Smallpox Eradication Programme, the *malam* responded, 'We are wiser now.' By this he meant that Nigerians have become more knowledgeable, that they think more critically about programmes introduced by the West, and that they are aware of debates in the West over possible vaccine risks. From the perspective of some northern Nigerian parents who refuse to have their children immunized against polio, many (like some parents in the West) are uncertain about vaccine safety, although sometimes for different reasons. Yet even when resistance on the part of parents to polio vaccination is much reduced and levels of polio immunization are much improved, the contagiousness of the poliovirus, the challenges of achieving high levels of immunization through multiple doses of vaccine, the complicated process of polio case confirmation, and the mutability of the attenuated oral polio vaccine in the environment make it difficult to eradicate polio in Nigeria without a continued, concerted effort.

The tactics of coercion and military rule have, to date, been ineffective in addressing the interrelated problems of polio transmission and political insecurity. It is possible, however, that a negotiated settlement together with improved infrastructure and primary healthcare may temper political violence and end WPV transmission in the north-east. While the examples of coercion used in the polio eradication campaign in northern Nigeria differ from the more drastic measures used in the smallpox campaign as described by Greenough, they nonetheless counter basic human rights such as freedom of speech and parental autonomy. Such actions and the assumption that the end justifies the means may have later ramifications. Just as the misuses of the 1996 Trovan® drug trial in Kano had unintended consequences for the GPEI programme there – for example, parents' subsequent refusal of free vaccines – memories of the polio eradication initiative may impede future public health initiatives in as yet unknown ways. Similarly, the actions taken by the JTF – the sometimes brutal retaliation for the killing of its members and the many warrantless arrests, resulting in mothers and wives in Maiduguri begging to know the whereabouts of their sons and husbands in November 2013 (Ibrahim 2013a) – do not encourage public support for government efforts. Indeed, the Nigerian government's

attempts to suppress opposition to the polio eradication campaign and to end anti-government violence through military and police activities may undermine citizens' sense that their government is looking out for their best interests. As one trader at the Baga Road Market in Borno State observed following the attack on the Bama barracks (by Boko Haram) and the immediate counterattacks (by the JTF; Agence France 2013) on four neighbouring villages in late December 2013:

> We are made to believe that the military is winning the war against the insurgents but what happened in the past weeks especially on Friday in Bama have made me … think otherwise. The authorities should please find [a] solution to the problem because the people of this state have suffered enough. (Ibrahim 2013b)

Without government programmes that seriously address the problems of basic infrastructure – water and roads – primary healthcare and the widespread poverty in northern Nigeria, actions that would encourage people's trust in their government and strengthen the legitimacy of federal rule, polio and political insecurity are likely to continue.

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ABSTRACT

Nigeria is one of three countries where polio continues to be endemic. In northern Nigeria, areas with low levels of polio immunization due to persistent parental opposition as well as implementation and infrastructural problems have contributed to wild poliovirus transmission. Furthermore, political violence associated with Islamic groups opposed to the federal government has also hampered the conclusion of the Global Polio Eradication Initiative (GPEI) efforts. This violence, which began in Borno State and has spread to other parts of northern Nigeria, occurs precisely where poliovirus transmission continues. These two related aspects – parallel dilemmas of low immunization and political violence – confound the conclusion of GPEI efforts in Nigeria. This situation also raises ethical questions both about the final stages of eradication efforts and about military actions to contain ongoing violence. The Nigerian government's attempts to suppress opposition to the polio eradication campaign by threatening non-compliant parents with arrest and by closing down media outlets may frighten some parents into compliance but can also breed resentment and resistance, just as military and police activities, such as house-to-house sweeps and widespread arrests, may encourage sympathy for Islamic insurgents. This situation suggests that the possible solution of one problem – the ending of wild poliovirus transmission – depends upon a solution of the other, i.e. the cessation of violent anti-government activities.

RÉSUMÉ

Le Nigeria est l'un des trois pays dans lesquels la poliomyélite reste endémique. Dans certaines régions du nord du Nigeria, la faiblesse du taux d'immunisation contre la poliomyélite, résultant d'une opposition parentale persistante ainsi que de problèmes de mise en œuvre et d'infrastructure, a contribué à une transmission du poliovirus sauvage. De plus, la violence politique associée aux groupes islamiques opposés au gouvernement fédéral a également entravé la conclusion des efforts de l'Initiative mondiale pour l'éradication de la poliomyélite (IMEP). Cette violence, qui a débuté dans l'État de Borno avant de gagner d'autres parties du nord du Nigeria, survient précisément là où la transmission du poliovirus persiste. Ces deux aspects liés, dilemmes parallèles de faible immunisation et de violence politique, empêchent l'IMEP de mener à bien ses efforts au Nigeria. Cette situation soulève également des questions éthiques sur les dernières étapes des efforts d'éradication, mais aussi sur les actions militaires engagées pour contenir la violence persistante. Les tentatives du gouvernement nigérian de réprimer l'opposition à la campagne d'éradication de la poliomyélite en menaçant d'arrêter les parents réfractaires et en fermant des organes de presse peuvent amener certains parents à se soumettre par la peur, mais aussi engendrer du ressentiment et de la résistance, tout comme les activités de l'armée et de la police, telles que fouilles maison par maison et arrestations massives, peuvent inciter à la sympathie pour les insurgés islamiques. Cette situation suggère que la solution possible d'un problème, à savoir mettre un terme à la transmission du poliovirus, dépend d'une solution de l'autre, à savoir la cessation des activités violentes contre le gouvernement.