References

Abdalla, Ismaila. (1991) Neither friend nor foe: The *malam* practitioner – 'Yan *bori* relationship in Hausaland. In: *Women's Medicine: The Zar-Bori Cult in Africa and Beyond*, I.M. Lewis, A. Al-Safi, and S. Hurreiz, eds. Edinburgh: Edinburgh University Press for the IAI, pp. 37-48.

Abdalla, Ismaila. (1997) *Islam, Medicine, and Practitioners in Northern Nigeria*. Lewiston NY: Edwin Mellen Press.

Al-Jawziyya, Ibn Qayyim. (2001) The Prophetic Medicine. Karachi: Hafiz and Sons.

Alli, Ahmed, trans. 2001. Al-Qur'ān. Princeton: Princeton University Press.

An-Nawawi. (1991) Forty Hadith. Kaduna.

Anonymous. (2004) Oral polio vaccine safe—Sultan of Sokoto. Daily Trust (22 March), p. 10.

Arnett, E.J. (1920 [1972]) Gazetteer of Zaria Province. London: Frank Cass.

Attah, J. O. (2003) Assessment of polio eradication strategies in Zaria Local Government Area of Kaduna State. MPH/DCM, Department of Community Medicine. Zaria: Ahmadu Bello University.

Audu, AbdulRaheem. (2007a) JNI backs WHO to meet polio eradication target. *Daily Trust* (20 July), p 6.

Audu, AbdulRaheem. (2007b) Measles outbreak kills over 50 in Zaria. *Daily Trust* (5 December), www.dailytrust.com, accessed 13 December 2007.

Babadoko, S. (2007) Measles death toll rises to 200 in Zaria. *Daily Trust* (10 December) www.dailytrust.com, accessed 11 December 2007.

Bako, C.A. (1978) Status of immunization in children under 5 in Ahmadu Bello University Teaching Hospital, Zaria. Long essay, Department of Community Medicine, Ahmadu Bello University, Zaria.

Bego, Abdullahi. (2007) We certified polio vaccine safe since 1964—Professor Umaru Shehu. *Daily Trust* (14 March), p. 35.

Blume, S. (2006) Anti-vaccination movements and their interpretations. *Social Science & Medicine* 62:628-642.

Bonu, S., M. Rani, and O. Razum (2004) Global public health mandates in a diverse world: The polio eradication initiative and the expanded programme on immunization in sub-Saharan Africa and South Asia. *Health Policy* 70(3): 327-345.

Colgrove, James. (2006) *State of Immunity: The Politics of Vaccination in Twentieth-Century America*. Berkeley: University of California Press; New York: Milbank Memorial Fund.

Daiyabu, Mohammed. (1977/78) Immunisation in the Tudum Wada Under-5s Clinic, 1976, Zaria. Long essay, Department of Community Medicine, Ahmadu Bello University, Zaria.

Dubos, René. (1959) Mirage of Health. Garden City, New York: Anchor Books.

Ejembi, C., E. Renne, and H.A. Adamu (1998) The politics of the 1996 cerebrospinal meningitis epidemic in Nigeria. *Africa* 68(1), 118-134.

Ekpo, M.D. (1975/76) Current State of Immunity in Kaduna Population. Long essay, Department of Community Medicine, Ahmadu Bello University, Zaria.

Etkin, N., P. Ross, and I. Muazzamu (1990) The indigenization of pharmaceuticals: Therapeutic transition in rural Hausa Land. *Social Science and Medicine*, 30, 919-928.

Feilden Battersby *Analysts* (FBA). (2005) *The state of routine immunization services in Nigeria and reasons for current problems*. Bath: FBA Health Systems Analysts http://www.technet21.org/backgrounddocs.html, accessed 15 August 2005.

Fredrickson, D.F., T. Davis, C. Arnold, E. Kennen, S. Humiston, J.T. Cross, and J. Bocchini. (2004) Childhood immunization refusal: provider and parent perceptions. *Family Medicine* 36:431-439.

Fry, David. (1965) Some complications of illicit injections. *West African Medical Journal* 14:167-69.

Harris, Gardiner. (2007a) Opening statements in case on autism and vaccinations. *New York Times* (12 June).

Harris, Gardiner. (2007b) Vaccine compound is harmless, study says, as autism debate rages. *New York Times* (27 September).

Hull, H.F. (2004) Poliomyelitis. In: *Principles of Medicine in Africa*, 3rd ed., E. Parry et al. Cambridge: Cambridge University Press, pp. 696-701

Last, Murray. (1967) A note on attitudes to the supernatural in the Sokoto jihad. *Journal of the Historical Society of Nigeria* 4:3-13.

Last, M. (2005) Religion and healing in Hausaland. In T. Falola (Ed.), *African religion and social change: Essays in honor of John Peel* (pp. 549-562). Durham: Carolina Academic Press.

Last, M. (2008) The search for security in Northern Nigeria. Africa 78(1).

Lockhart, Jamie, and Paul Lovejoy, eds. (2005) *Hugh Clapperton into the Interior of Africa*: *Records of the Second Expedition 1825-1827*. Leiden: Brill.

Martin, Emily. (1994) Flexible Bodies: Tracking Immunity in American Culture—From the Days of Polio to the Age of AIDS. Boston: Beacon Press.

Marty, Paul. (1914) Les amulets musulmanes au Senegal. Revue du Monde Musulman 37:319-368.

McNeil, Jr., D. (2005) Health officials say gulf nations should give more to fight polio. *New York Times* (7 May), A5.

National Population Commission [Nigeria] (NPC). (2004) *Nigeria Demographic and Health Survey 2003*. Calverton, MD: National Population Commission and ORC/Macro.

Newman, P., and R. Newman. (1979) *Modern Hausa-English Dictionary*. Ibadan: University Press.

Nwuga V. C. B., and T. Odunowa.(1978) Some clinical characteristics of children with paralytic poliomyelitis referred for physiotherapy. *J. Trop. Med. Hyg.* 81:84-87.

Okpani, Ikenna. (2003) Anti-polio vaccine campaign unnecessary—Senator Tafida. *Daily Trust* (20 November).

Olayinka, C. (2007) Zamfara residents reject polio vaccines. *The Guardian* (29 January).

Parry E., R. Godfrey, D. Mabey, and G. Gill, eds. (2004) *Principles of Medicine in Africa*. Cambridge: Cambridge University Press.

Renne, E. (1996) Perceptions of population policy, development, and family planning in Northern Nigeria. *Studies in Family Planning* 27(3):127-36.

Renne, E. (2006) Perspectives on polio and immunization in Northern Nigeria. *Social Science & Medicine* 63(7):1857-1869.

Sa'idu, Isa, and Yusha'u Ibrahim. (2007) Special Report: Measles ravages Zaria City. *Sunday Trust* (16 Dec) www.dailytrust.com, accessed 17 Dec 2007.

Smith, Mary F. (1954) Baba of Karo. New Haven: Yale University Press.

Soares, Benjamin. (2005) *Islam and the Prayer Economy*. Edinburgh: University of Edinburgh Press.

Sule, Bello. (nd) *Shan Inna*, narrated by Rafa'i Bawa Dalhatu, UNICEF-Bauchi Office and the NTA.

Umar, Muhammad Sani. (1993) Changing Islamic Identity in Nigeria from the 1960s to the 1980s: From Sufism to anti-Sufism. In: *Muslim Identity and Social Change in Sub-Saharan Africa*, L. Brenner, ed. Bloomington: Indiana University Press, pp. 154-178.

United States Agency for International Development (USAID). (1994) USAID's strategy for stabilizing world and population growth and protecting human health. *Population and Development Review* 20(2):483-87 [US NSSM 200].

Vaughan, Megan. 1991. Curing Their Ills: Colonial Power and African Illness. Stanford: Stanford University Press.

Veenman, J., and L. Jansman. (1980). The 1978 Dutch polio epidemic. A sociological study of the motives for accepting or refusing vaccination. *The Netherlands Journal of Sociology* 16: 21–48.

Walker, A. (2007) Nigerians try to dampen polio fears. *BBC News*, 16 October (http://news.bbc.co.uk/2/hi/africa/7046680.stm, accessed 16 October 2007).

Wall, L. (1988) Hausa Medicine. Durham: Duke University Press.

WHO-Kaduna State. (2007) Immunization levels, Kaduna State, Jan-June 2007. Unpublished.

Wyatt, H. V. (1984) The popularity of injections in the Third World: Origins and consequences for poliomyelitis. *Social Science & Medicine* 19(9) 91 1-915.

Wyatt, H.V. (1992) Mothers, injections, and poliomyelitis. *Social Science & Medicine* 35(6): 795-798.

Table 4.1. Routine immunization coverage, Kaduna State, 1991-2000¹

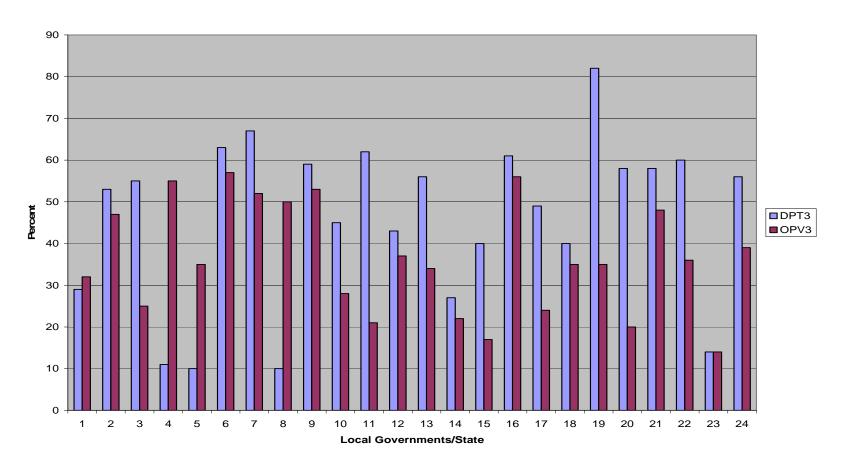
Year	BCG (%)	DPT ₃ (%)	OPV ₃ (%)	Measles (%)	Mean
1991	76	50	50	72	62
1992	96	54	54	55	67
1993	30	19	21	30	25
1994	49	38	38	56	45
1995	84	25	26	49	46
1996	75	36	50	73	59
1997	38	35	46	53	42
1998	38.9	23.8	27.2	70.3	40
1999 ²	13.3	16.7	22.2	29.8	20.5
2000	51	25	27	48	37.8

¹Data for 1991-2000 from Epidemiology Division, State Ministry of Health, Kaduna (cited in Attah 2003:29).

² In 1998, both President Abacha and the Moshood Abiola died; Abdulsami Abubakar served as

interim president until the inauguration of President Obasanjo in May 1999 (see Renne 2006).

Table 4.2. Immunization Coverage—% of DPT₃ and OPV₃, by Local Government Areas, Kaduna State, January-June, 2007^{1,2}



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15*	16	17	18*	19*	20	21*	22	23*	24
Birni	Chik	Giwa*	Igabi	Ikara	Jaba	Jemaa	Kachia	Kaduna	Kaduna	Kagarko	Kajuru	Kaura	Kauru	Kubau	Kudan	Lere	Makarfi	Sabon	Sanga	Soba	Z/	Zaria	St
Gwari								North	South									Gari			Kataf		ĺ
29	53	55	11	10	63	67	10	59	45	62	43	56	27	40	61	49	40	82	58	58	60	14	56
32	47	25	55	35	57	52	50	53	28	21	37	34	22	17	56	24	35	35	20	48	36	14	39

Data from WHO-Kaduna
 Asterisk indicates LGA that experienced measles outbreak in November-December 2007 (Babadoko 2007).