ANNEX A: CHARACTERISTICS OF INCLUDED ARTICLES

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
Algeria #9283(1) Algiers, periurban, suburban and rural areas	Birth dates: 1935 Study period: May 1935 to December 1947 Follow up: ≤ 12 years	BCG vaccinated vs. BCG unvaccinated (Institute Pasteur, orally administered, research purpose)	Quasi-randomised controlled trial conducted in a Muslim population in Algeria where children born in 1935 were allocated to BCG (given orally) or unvaccinated at birth. Children revaccinated at ages 1, 3, 7 and 15 years were followed up for up to 6 months after vaccine. Inclusion Criteria: Participants were newborns from Algerian Muslim families with very low socioeconomic status. Exclusion Criteria: Not clearly stated Vaccine ascertainment: Recorded at point of vaccination Mortality ascertainment: Routine home visits	Total number of children described: 41,307 Total number of children analysed: 39,259 No modifier reported
Bangladesh A #797(2) Matlab (60 km southeast of Dhaka)	Birth dates: born before 1 January 2000 Study period: 1986-2001 Follow up: ≤60 months	BCG vs. no BCG DPT vs. no DPT MCV vs. no MCV (vaccine type/strain not reported, research purpose)	Observational cohort reporting all-cause child mortality from 70 villages within the Maternal Child Health And Family Planning programme area participating in the Health And Demographic Surveillance System and vaccinated with BCG, DTP (1-3 doses) or MCV. Inclusion Criteria: Registration within the Maternal Child Health and Family Planning Programme area-Birth before January 1, 2000 Exclusion Criteria: Death or emigration < 42 days of age (initial analysis), death or emigration < 9 months of age (second analysis), deaths due to trauma or accident Vaccine ascertainment: Recorded at the point of vaccination in a record keeping book Mortality ascertainment: Verbal autopsy	Total number of children described: 39,625 Total number of children analysed: 36,650 No modifier reported
Bangladesh A #9477(3) Matlab	Birth dates: 1986-1999 Study period: January 1986 to 1999 (date unclear)	Different sequence combinations of BCG and DTP vaccines: BCG+DTP1 vs. BCG (1.5-9 months); BCG	Observational cohort reporting all-cause child mortality within the Matlab HDSS for children born between 1986 and 1999 , focusing on the effect of BCG and DTP sequence and therefore limited to the 6 weeks to 9 months age group. Inclusion Criteria: children born between 1986 and 1999 within the Matlab HDSS	Total number of children described: 37,894 Total number of children analysed: 35,585

[1] Additional references without relevant data, but provided additional details of how the study was conducted.

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
	Follow up: ≤ 9 months	simultaneously with DTP1 vs. BCG before DTP1; BCG after DTP vs. BCG before DTP1 (1.5-9 months) (vaccine type/strain not reported, routine vaccination)	Exclusion criteria: deaths due to accidents Vaccine ascertainment: routine household visits, recorded at the point of vaccination in a record keeping book Mortality ascertainment: verbal autopsy as part of the routine HDSS	Modifier: gender
Bangladesh B #7031(4) Matlab (45 km southeast of Dhaka; Blocks A,B,C,D)	Birth dates: 1977-1984 Study period: aged 10-60 months between 1 April 1982 and 31 December 1984 Follow up: ≤ 59 months	MCV vs. no MCV (Schwarz strain, Research purpose)	Case-control study in four contiguous areas, two of which had participated in an intensive measles vaccination program, which began in the spring of 1982. Cases were 536 children who had died in the four-area region at the age of 10-60 months between April 1982 and December 1984. Two age- and sex-matched controls were selected from the four-area region for each case; each control had survived at least through the date of death of the matched case Inclusion Criteria: Born in the 4 block areas, resided in the 4 block areas until the age of selection, aged 10-60 months when selected between 1 April 1982 and 31 December 1984; vaccinated children in blocks A and C (vaccinated before selection), unvaccinated children from blocks B and D. Exclusion Criteria: unvaccinated children who resided in the vaccinated areas (blocks A and C), death or outmigration before the date of selection Vaccine ascertainment: detailed record keeping system kept by the female community health workers Mortality ascertainment: routine visits to homes	Total number of children described: 3,887 Total number of children analysed: 1,608 No modifier reported
Bangladesh B #9052(5) Matlab (45 km southeast of Dhaka; Blocks A,B,C,D)	Birth dates: 1977-1985 Study period: aged 9-60 months between 1982-1985 Follow up: ≤59 months	MCV vs. no MCV (Schwarz strain, research purpose)	Observational cohort based on longitudinal data from the Matlab maternal and child health/family planning programme in rural Bangladesh. It analysed the mortality experience of 8135 vaccinated and 8135 randomly matched non-vaccinated children aged 9-60 months, who were observed from March 1982 to October 1985. Inclusion Criteria: Measles vaccinated and unvaccinated children aged 9-60 months and observed from March 1982 to October 1985, No record of MCV vaccination of the non vaccinees during the study period, vaccinees and corresponding non-vaccinees matched for month and year of birth, survival of each non-vaccinee at least up to the date of vaccination	Total number of children described: 18,266 Total number of children analysed: 16,270 Modifier: gender

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
			of their matched vaccinee Exclusion Criteria: Vaccinees for whom matched non-vaccinees could not be found according to the inclusion criteria Vaccine ascertainment: Detailed record keeping system Mortality ascertainment: Not clearly stated	
Bangladesh B #6509(6) Matlab (45 km southeast of Dhaka; Blocks A,B,C,D)	Birth dates: 1977-1985 Study period: aged 9-60 months between 1982-1985 Follow up: ≤ 59 months	MCV vs. no MCV (Schwarz F88, Research purpose)	Observational cohort of children born likely between 1977 and January 1985 in Matlab. This article compared children that received measles immunization from 9 months of age with an unvaccinated control group. A total of 8134 immunized children were matched by age with 8134 non-immunized children; 578 children died during the follow-up period of 3 years. Vaccine effectiveness against all-cause deaths controlling for background factors was reported. Inclusion Criteria: as described in #9052 Exclusion Criteria: vaccinated children for whom a matched control could not be found Vaccine ascertainment: routine visits to homes, DSS Mortality ascertainment: routine visits to homes, Demographic surveillance system	Total number of children described: 18,266 Total number of children analysed: 16,268 No modifier reported
Bangladesh B #6488(7) Matlab (45 km southeast of Dhaka; Blocks A,B,C,D)	Birth dates: 1977-1985 Study period: aged 9-60 months between 1982-1985 Follow up: ≤ 59 months	MCV vs. no MCV (vaccine type/strain not reported, routine vaccination)	Observational cohort of children born likely between 1977 and January 1985 in Matlab. This article compared children that received measles immunization from 9 months of age with an unvaccinated control group. A total of 8134 immunized children were matched by age with 8134 non-immunized children; 578 children died during the follow-up period of 3 years. Vaccine effectiveness against all-cause deaths controlling for background factors was reported. Inclusion Criteria: as described in #9052 and #7031 Exclusion Criteria: as described in #9052 and #7031 Vaccine ascertainment: review of vaccination centre records Mortality ascertainment: Surveillance system	Total number of children described: 16,270 Total number of children analysed: 16,270 No modifier reported
Benin #9372(8)	Birth dates: 1983-1987 Study period: 1986-	BCG vs. no BCG; DTP1 vs. no DTP; DTP2 vs. no DTP; DTP3 vs. no DTP;	A case-control study comparing vaccination status in 74 children aged 4 to 35 months who died in 1986 or 1987 and 230 controls who survived and were individually matched by date of birth, sex and place of residence. Data was stratified by age at vaccination (≤ 12 months and >	Cases: 74; Controls: 230 No modifier reported

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
Pahou and Avlkete (atlantic coast, 30 km from Cotonou) (Additional reference: #2936(9))	1987 Follow up: ≤ 36 months	DTP (4 doses) vs. no DTP; MCV vs. no MCV; MCV after 12 months vs. no MCV (vaccine type/strain not reported, routine vaccination)	12 months) and controlled for socioeconomic status, weight for age and other vaccines. The surveillance was conducted in 1986 and 1987. Inclusion Criteria: Cases: died between January 1986-October 1987, aged < 3 years, Controls: matched to cases for age, sex and village of residence Exclusion Criteria: Not matching the inclusion criteria, residing in villages without a health worker Vaccine ascertainment: Review of health centre records Mortality ascertainment: Routine home visits-interview with parents	
Burkina Faso #799(10) Pissila and Yako area villages	Birth dates: 1985-1993 Study period: 1985-1996 Follow-up: ≤ 24 months	BCG vs. no BCG, BCG vs. no BCG; BCG+DTP vs. no BCG, no DTP; BCG+DTP vs. BCG; DTP vs. no DTP; DTP1-2 vs. DTP1 (vaccine type/strain not reported, research purpose)	An observation cohort of all children born between 1985 and 1993 in 26 villages in the areas of Pissila and Yako in Burkina Faso. Children received vaccination according to WHO schedule. All-cause child mortality was reported for children receiving BCG and/or DTP compared to unvaccinated children. Inclusion Criteria: Infants born in rural communities (Pissila and Yako) in Burkina Faso between 1985 and 1993 Exclusion Criteria: Stillbirths, Not recorded month of birth Vaccine ascertainment: Patient held vaccination cards Mortality ascertainment: Visits every 6-12 months	Total number of children described: 9,412 Total number of children analysed: 9,085 Modifier: gender
Burundi #6889(11) Muyinga sector	Birth dates: born since January 1984 and alive at 1 July 1988 Study period: 1988-1989 Follow-up: ≤ 60 months	MCV vs. no MCV (monovalent, vaccine strain not reported, research purpose)	This observational cohort reviewed the Burundi vaccination programme data on doses of measles vaccine administered, vaccine coverage, and measles incidence, and conducted a census of the affected area to examine vaccine efficacy and measles mortality, after a major outbreak of measles in 1988 raised questions about the efficacy of the immunization programme. Person-months at risk for each age group for the period July 1988 to January 1989 were used to calculate all-cause and non-target mortality. Inclusion Criteria: children < 5 years of age in 5 hills in Muyinga born since January 1984 and alive at July 1, 1988 Exclusion Criteria: Not reported	Total number of children described: 1,899 Total number of children analysed: 1,899 No modifier reported

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
			Vaccine ascertainment: Patient held vaccination cards – Household visits Mortality ascertainment: Door-to-door census	
Canada #8912(12) Indian Reserve of Qu'Apelle	Birth dates: October 1933- November 1945 Study period: 1933-1945 Follow-up: ≤ 60 months	BCG vs. no BCG (vaccine type/strain coded by number, subcutaneously administered, research purpose)	RCT of Indian infants born on the reservation in the Qu'Appelle Valley adjacent to the Fort Qu'Appelle Sanatorium in Saskatchewan between October 1933 and November 1945. Children received either BCG or no vaccination. Inclusion Criteria: Indian infants born in the region of Qu'Appelle Indian Health Unit during the period of October 1933 to December I945 Exclusion Criteria: Immigration, tuberculosis, faulty vaccination of controls Vaccine ascertainment: Recorded at the point of vaccination Mortality ascertainment: Post-mortem examinations	Total number of children described: 609 Total number of children analysed: not reported No modifier reported
Democratic Republic of Congo #7108(13) Kasongo	Birth dates: June 1973-October 1975 Study period: May 1974-April 1977 Follow-up: ≤ 60 months	MCV vs. no MCV (monovalent, Live attenuated measles vaccine ('Atenuvax', Merck, Sharp and Dohme), routine vaccination)	Observational cohort based on a survey conducted between May 1974 and December 1977 in two adjacent areas in Kasongo. All children born between June 1973 and October 1975 entered the study and were divided in four groups (one vaccinated and three unvaccinated from different areas) in a zone with a high measles case-fatality rate. Life-tables were constructed with the risk of dying for any cause calculated according to child-months of observation. Inclusion Criteria: Children <5 years of age in Kasongo Exclusion Criteria: Exclusion criteria reported for group 1v: Not vaccinated in group 1v, measles infection before vaccination, enter in the study after vaccination age, missing vaccination information from survey forms Vaccine ascertainment: Recorded at the point of vaccination Mortality ascertainment: Routine household visits	Total number of children described: 7, 092 Total number of children analysed: 27,813 child-months No modifier reported

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
Ghana A #401(14) Navrongo (Additional references #9452(15), #2944(16), #9454(17), #9455(18))	Birth dates: 1984-1991 Study period: aged 6-90 months between 1989-1991 Follow-up: ≤ 90 months	DTP (3-4 doses) vs. DTP (0-2 doses) (vaccine type/strain not reported, routine vaccination)	This observational cohort re-analysed data from a VAS trial from Ghana to explore the hypothesis that VAS reduces mortality in children who had BCG or MCV as their most recent vaccine but increased mortality when DTP was the most recent vaccine. At enrolment, children aged 6-90 months were randomly assigned to receive VAS or placebo every 4 months for 2 years; vaccination status was assessed at enrolment and after 1 and 2 years by reviewing the children's health cards (lack of a health card was presumed to mean that the child had not been vaccinated) Inclusion Criteria: Aged 6-90 months at Study period, valid information regarding possession of a health card Exclusion Criteria: Invalid information regarding possession of a health card(said to have a card, but card not seen or no information) Vaccine ascertainment: Vaccination Cards Mortality ascertainment: routine visits to homes	Total number of children described: 21,906 Total number of children analysed: 11,722 Modifier: gender, VAS
Ghana A #3294(19) Navrongo (Additional references #9452(15), #2944(16), #9454(17), #9455(18))	Birth dates: 1984-1991 Study period: aged 6-90 months between 1989-1991 Follow-up: ≤ 90 months	BCG+DTP1-2 vs. BCG (within 4 months of follow-up); BCG+DTP1-2 vs. BCG (within 24 months of follow-up); DTP (any) vs. assumed as unvaccinated (within 4 months of follow-up) (vaccine type/strain not reported, administered in campaign)	This observational cohort re-analysed a VAS trial from Ghana that collected data on vaccination status assessed at the initiation and after 12 and 24 months of follow-up. Mortality over the first 4 months was compared to mortality at the 2 years of follow-up for different vaccination status groups with different likelihoods of additional vaccinations during follow-up. The frequency of additional vaccinations was assessed among children whose vaccination card was seen at 12 and 24 months of follow-up. Inclusion Criteria: vaccination card seen, no card Exclusion Criteria: had health cards but not seen, had no information on health card Vaccine ascertainment: Vaccination Cards Mortality ascertainment: Routine visits to homes and verbal autopsy	Total number of children described: 3,330 Total number of children analysed: 3,082 Modifier: gender
Ghana B #7190(20) Kassena and	Birth dates: October 1,1994-December 31, 1999 Study period: 1994-	Adjusted comparisons: Partial BCG/DTP vs. no BCG, no DTP; Partial BCG/DTP + MCV vs. no BCG, no DTP; Full	This observational cohort used five years of data from the Navrongo Demographic Surveillance System, a longitudinal population registration system in northern Ghana, to examine all- cause mortality among vaccinated and unvaccinated children under 5 years of age. Inclusion Criteria: Vaccinated and unvaccinated children under 5 years of age(data from	Total number of children described: 24,053 Total number of children analysed: 17,753

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
Nankana (later in Navrongo)	1999 Follow-up: ≤ 60 months	BCG/DTP vaccinated vs. no BCG, no DTP; Full BCG/ DTP/ MCV vs. no BCG, no DTP Unadjusted comparison: MCV vs. no MCV with partial or full BCG/DTP coverage; BCG+ DTP3 +MCV vs. BCG+DTP3 (Age groups: 9-11 months, 12-23 months, 24-59 months) (vaccine type/strain not reported, routine vaccination)	Navrongo Demographic SurveillanceSystem) Exclusion Criteria: Children born elsewhere and migrated in the study area, children with missing mothers information and children < 4 months of age Vaccine ascertainment: Review of health centre records – Patient held vaccination cards Mortality ascertainment: Routine visits to homes	No modifier reported
Ghana C #9464(21) Kassena and Nankana	Birth dates: January 1, 1998-December 31, 2004 Study period: 1998- not clear Follow-up: ≤ 60 months	BCG vs. no BCG; DTP1 vs. no DTP; DTP2 vs. no DTP; DTP3 vs. no DTP; MCV vs. no MCV (vaccine type/strain not reported, research purpose)	This observational cohort used six years of data from the Navrongo Demographic Surveillance System, a longitudinal population registration system in northern Ghana, to examine all-cause mortality among vaccinated and unvaccinated children under 5 years of age. The study reported univariate time-conditional hazard ratios for the impact of BCG, DTP or MCV vaccines on mortality among children younger than five. Inclusion Criteria: Born between 1 January 1998 and 31 December 2004 in Kassena and Nankana district in Northern Ghana Exclusion Criteria: not reported Vaccine ascertainment: Demographic Surveillance System – Annual survey Mortality ascertainment: Demographic Surveillance System – Routine household visits	Total number of children described: 18,368 Total number of children analysed: 17,967 No modifier reported
Guinea Bissau A #339(22) Bandim area (Additional references	Birth dates: May 27, 2005- January 31, 2008 (NOT CLEAR) Study period: 2005-2008 Follow-up: ≤ 12	Early vs. delayed BCG; BCG vs. not for VAS vs. Placebo (LBW, DTP only, 1 month; interaction only) (Copenhagen type,	Randomised trial with 2x2 factorial design, aiming to investigate the effect of VAS and BCG vaccination at birth in low birth weight neonates. Neonates who weighed less than 2.5 kg were randomly assigned to 25,000 IU vitamin A or placebo, as well as to early BCG vaccine or the usual late BCG vaccine, and were followed until age 12 months. Inclusion Criteria: Low birth weight infants < 2,5 kg	Total number of children described: 1,737 Total number of children analysed: 1,717 Modifier: VAS

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
#5(23))	months	administered intradermally, research purpose)	Exclusion Criteria: Low birth weight infants < 2,5 kg Vaccine ascertainment: Recorded at the point of vaccination Mortality ascertainment: Verbal autopsy	
Guinea Bissau A #166(24) Bandim area (Additional references #5(23))	Birth dates: November 2004- March 2008 (NOT CLEAR) Study period: 2004-2008 Follow-up: ≤ 12 months	Early vs. delayed BCG in LBW; early BCG (after birth) vs. no BCG vaccination in LBW; early BCG (after birth) vs. delayed administration of BCG in LBW (State Serum Institute(SSI), Research purpose)	Randomised trial with 2x2 factorial design, aiming to investigate the effect of VAS and BCG vaccination at birth in low birth weight neonates. Neonates who weighed less than 2.5 kg were randomly assigned to 25,000 IU vitamin A or placebo, as well as to early BCG vaccine or the usual late BCG vaccine, and were followed until age 12 months. Inclusion Criteria: Low birth weight infants < 2,5 kg Exclusion Criteria: Birth weight > 2,5 kg, malformations, wrong treatment, lost to follow-up Vaccine ascertainment: recorded at the point of vaccination Mortality ascertainment: Verbal autopsy – Household visits	Total number of children described: 2,343 Total number of children analysed: 2,320 Modifier: Gender, VAS
Guinea Bissau A #61(25) Bandim area (Additional references #5(23))	Birth dates: November 2002-November 2004 (NOT CLEAR) Study period: 2002-2004 Follow-up: ≤ 12 months	Early vs. delayed BCG in LBW; early BCG (after birth) vs. no BCG vaccination in LBW; early BCG (after birth) vs. delayed administration of BCG in LBW (vaccine type/strain not reported, research purpose)	Infants were randomised to receive BCG immediately after birth or delayed BCG vaccination (current practice). The trial was initiated in November 2002 and stopped during 2004 because of a faulty randomisation procedure in one of the centres (a national hospital) Inclusion Criteria: Low birth weight infants < 2,5 kg: Exclusion Criteria: Birth weight > 2,5 kg Vaccine ascertainment: Recorded at the point of vaccination Mortality ascertainment: Verbal autopsy	Total number of children described: 105 Total number of children analysed: 104 No modifier reported
Guinea Bissau A #25(26) Bandim area (Additional references	Birth dates: 2004-2008 (NOT CLEAR) Study period: 2004-2008 (NOT CLEAR) Follow-up: ≤ 6 months	Early vs. delayed BCG; DTP vs. no DTP; DTP vs. delayed DTP (all delayed BCG) ; BCG+DTP vs. BCG+delayed DTP (vaccine type strain not	RCT of low birth weight children coming for their first vaccination at three health centres: Bandim, Belem, and the national hospital of the city of Bissau. Children were randomised to receive BCG immediately after birth or delayed BCG vaccination (current practice). Trial register: NCT00146302 and NCT00168610. Inclusion Criteria: LBW children Exclusion Criteria: Birth weight > 2,5 kg, malformations, wrong treatment, lost to follow-up	Total number of children described: 2,343 Total number of children analysed: 1,830 Modifier: gender

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
#5(23))		reported, routine vaccination)	Vaccine ascertainment: Vaccination cards Mortality ascertainment: Verbal autopsy	
Guinea Bissau A #9436(27) Bandim area (Additional references #5(23))	Birth dates: 2005-2008 (NOT CLEAR) Study period: 2005-2008 Follow-up: ≤ 35 months	Early vs. delayed MCV; MCV vs. no MCV (Age groups: 4.5-9 months, 9-35 months(vaccine type/strain not reported, routine vaccination)	Re-analysis of three RCTs of neonatal VAS from 2002 to 2008 and an early MCV RCT. Sample sizes for the three VAS trials were: Trial 1 (4345); Trial II (6048); Trial III (1717) Inclusion Criteria: Low birth weight infants < 2,5 kg Exclusion Criteria: not reported Vaccine ascertainment: Trial database Mortality ascertainment: Trial database	Total number of children described: 12,110 Total number of children analysed: 5,141 Modifier: Gender, VAS
Guinea Bissau B #1986(28) Bandim area (6 suburban districts) (Additional references: #8794(29), #464(30), #506(31), #511(32), #433(33), #8934(34), #142(35), #9436(27))	Birth dates: Not clearly stated Study period: aged 6-17 months between 2003-2004 Follow-up: ≤ 18 months	BCG+DTP vs. BCG+DTP+MCV; BCG+DTP vs. BCG only; BCG+MCV vs. BCG only; DTP vs. no DTP(vaccine type/strain not reported, campaign)	This observational cohort study aimed to assess the effect of VAS administered with different vaccines during national immunization days. Children 6 months or older were given VAS, and if they were missing vaccines, these were often given as well. Survival between children who had received VAS alone, VAS with DTP or with DTP+MCV, or VAS with MCV was compared. Children were 6 to 17months old at the beginning of the study and were followed up until 18 months of age. Inclusion Criteria: children aged 6-17 months, living in the study area, attending National Immunization Days and having received VAS Exclusion Criteria: Not attendind National Immunization Days, travelled/absent, erroneously though<6 months, received Vitamin A elsewhere, ill, did not want to participate, had not heard of National Immunization Days or came too late, not found to establish reason for non participation, did not receive Vitamin A, developed measles within the first 2 weeks after the Vitamin A supplementation Vaccine ascertainment: Review of vaccination centre records – Patient held vaccination cards Mortality ascertainment: Interview with parents	Total number of children described: 1,520 Total number of children analysed: 1,513 Modifier: Gender, VAS
Guinea Bissau B #324(36) Bandim area (6 suburban districts) (Additional	Birth dates: Not clearly stated Study period: aged 18 months- 5 years between July 2002 and April 2004	BCG revaccination vs. no BCG revaccination; BCG vs. no BCG revaccination: booster DTP before enrolment (Copenhagen	This RCT aimed to determine whether BCG re-vaccination at 19 months of age reduces overall child mortality. 2871 children aged 19 months to 5 years with low or no reactivity to tuberculin and who were not severely sick on the day of enrolment received BCG vaccination or no vaccination. Hazard ratios for mortality were reported. Inclusion Criteria: residence in the study area, a mantoux test reaction of less than 15 mm, and being sufficiently healthy to be vaccinated according to the clinician	Total number of children described: 2,873 Total number of children analysed: 2,832 Modifier: VAS

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
references: #8794(29), #464(30), #506(31), #511(32), #433(33), #8934(34), #142(35), #9436(27))	Follow-up: ≤ 60 months	type/strain, research purpose)	Exclusion Criteria: a reaction of 15 mm or more and not being sufficiently healthy to be vaccinated according to the clinician.Children did not have to have documentation of previous BCG vaccination or previous boosted DTP vaccination to be included. We assumed that essentially all children had received BCG during the first year of life , and we were testing the effect of a general introduction of BCG revaccination in the community Vaccine ascertainment: Recorded at the point of vaccination Mortality ascertainment: Routine household visits-Facility health records	
Guinea Bissau C #1731(37) Bandim (6 suburban districts) (Additional references: #5421(38), #3791(39))	Birth dates: August 2003-April 2007 (NOT CLEAR) Study period: 2003-2007 Follow-up: ≤ 36 months	Early MCV vs. no MCV; Two doses MCV (4.5 & 9 months) vs. one dose MCV (9 months) (monovalent type, Edmonston and Schwarz strain, research purpose)	RCT comparing one dose of Edmonston-Zagreb (EZ) MCV at 9 months vs. one dose of Schwartz (S) measles vaccine at 9 months vs. two doses of EZ measles vaccine at 4.5 months and 9 months (NCT00168558). Children from the EZ-MCV (1 dose, 9 months) vs. S-MCV (1 dose, 9 months) were also randomised to receive a booster MCV dose at 18 months. Subjects could have taken part of trials in Guinea-Bissau A. Inclusion Criteria: Children aged 4.5 months of age who had received 3 doses of DTP vaccine at least 4 weeks before Study period Exclusion Criteria: Previous measles infection, DTP3 interval, wrong age, wrong MCV type, double enrolment Vaccine ascertainment: Recorded at the point of vaccination Mortality ascertainment: Routine household visits - Visits to the health centres	Total number of children described: 6,648 Total number of children analysed: 6,417 Modifier: gender
Guinea Bissau C #9434(40) Bandim (6 suburban districts) (Additional references: #5421(38), #3791(39))	Birth dates: August 2003-April 2007 (NOT CLEAR) Study period: 2003-2007 Follow-up: ≤ 60 months	Two doses MCV (4.5 & 9 months) vs. one dose MCV (9 months) (Edmonston-Zagreb and standard strain, Research purpose)	Re-analysis of two RCTs: Trial 1: 1993-1995, early two-dose schedule of measles vaccine at 6 and 9 months of age vs. one dose of measles vaccine at 9 months of age. Children were also randomized to vitamin A. Trial 2: 2003-2007, children were randomised to receive EZ standard dose measles vaccine at 4.5 and 9 months of age or standard measles vaccine at 9 months of age. Inclusion Criteria: as in #1731 Exclusion Criteria: as in #1731 Vaccine ascertainment: Trial Database Mortality ascertainment: Trial Database	Total number of children described: 1,698 Total number of children analysed: 1,698 Modifier: gender
Guinea Bissau D	Birth dates: February	adjusted comparison: BCG vs.no BCG; DTP1	This observational cohort reported a follow up of 15,351 women and their children born during 1990 and 1996 in rural areas of Guinea-Bissau. The main outcome measure was: Infant	Total number of children

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
#2726(42) Guinea Bissau (5 rural areas) (Additional references: #9461(43), #850(44))	1990-April 1996 Study period: 1990-1996 Follow-up: ≤ 60 months	vs. no DTP; DTP2-3 vs. no DTP unadjusted comparison: BCG vs.no BCG; DTP vs. no DTP; MCV vs. no MCV (Age groups: 0-1 months, 2-3 months, 4-6 months, 7-8 months, 9-11 months, 12-13 months) (vaccine type/strain not reported, research purpose)	mortality over six months (between age 0-6 months and 7-13 months for BCG; DTP; and polio vaccines and between 7-13 months and 14-20 months for MCV) Inclusion Criteria: alive at the first visit and residing in the area- children had to be visited twice to be included in the study Exclusion Criteria: children whose cards could not be inspected Vaccine ascertainment: Patient held vaccination cards Mortality ascertainment: Household visits	described: 10,298 Total number of children analysed: 8,752 No modifier reported
Guinea Bissau D #9466(45) (Additional references: #9461(43), #850(44))	Birth dates: 1990-1996 (not clearly stated) Study period: aged 0-6 months, during 1990-1996 Follow-up: ≤ 60 months	BCG vs.no BCG; BCG+DTP1 vs. BCG; DTP1 vs. no DTP (vaccine type/strain not reported, routine vaccination)	This article is a correspondence reporting mortality data per person-years according to vaccination group, using vaccination status as time fixed or time varying variable. Inclusion Criteria: aged 0-6 months, during 1990-1996 Exclusion Criteria: not reported Vaccine ascertainment: Patient held vaccination cards Mortality ascertainment: Household visits	Total number of children described: not reported Total number of children analysed: 2409.3 person-years Modifier: gender
Guinea Bissau D #9014(47) (Additional references: #9461(43), #850(44))	Birth dates: 1990-1996 (NOT CLEAR) Study period: 1990-1996 (NOT CLEAR) Follow-up: ≤ 60 months	BCG vs.no BCG; DTP1 vs. no DTP; DTP2-3 vs. no DTP; DTP3 vs. no DTP (vaccine type/strain not reported, research purpose)	This article is a rapid response reporting mortality data by vaccination status and gender from Kristensen (2000)2, an already included study. Inclusion Criteria: not reported Exclusion Criteria: not reported Vaccine ascertainment: not reported Mortality ascertainment: not reported	Total number of children described: not reported Total number of children analysed: 4,418 No modifier reported
Guinea Bissau D #629(48) (Additional references:	Birth dates: 1990-1996 (NOT CLEAR) Study period: 1990-1996 (NOT CLEAR) Follow-up: not	BCG vs.no BCG; DTP1 vs. no DTP; DTP2-3 vs. no DTP (vaccine type/strain not reported, research	This article evaluated whether the divergent effects of DTP vaccination on childhood survival reported in observational studies could be because of methodological differences. Some studies of the impact of DTP updated information on vaccination retrospectively (retrospective updating approach) while others kept vaccination status fixed for the time between follow-up visits (landmark approach). First, computer simulations with these approaches were conducted in order to investigate the impact of different mortality levels,	Total number of children described: 5,274 Total number of children analysed: not reported No modifier reported

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
#9461(43), #850(44))	reported	purpose)	vaccination incidence rates, intervals between data collection visits, and the proportion of children whose vaccination card had not been seen after death. Second, data from Guinea-Bissau was re-analysed using the retrospective updating approach. Inclusion Criteria: not reported Exclusion Criteria: not reported Vaccine ascertainment: not reported Mortality ascertainment: not reported	
Guinea Bissau E #851(46) Oio,Biombo, Cacheu and Gabu (Additional references: #850(44))	Birth dates: 1984-1987 Study period: aged 2-8 months between 1984 and 1987 Follow-up: ≤ 14 months	BCG vs.no BCG; DTP vs. no DTP; DTP1 vs. no DTP; DTP2-3 vs. no DTP (vaccine type/strain not reported, routine vaccination-campaigns)	This observational cohort study examined mortality when DTP was first introduced in rural areas of Guinea Bissau at the beginning of 1984 (oral polio vaccine was introduced later that year). 1657 children aged 2-8 months were weighed when attending the bi-annual examinations and vaccinated whenever vaccines were available. Mortality data was reported for children who had received DTP and compared with children who had not been vaccinated because they were absent, vaccines were not available, or they were sick. Inclusion Criteria: children who were 2–8 months old at a village visit Exclusion Criteria: Children aged 9 months would normally receive measles vaccine and have therefore been excluded from the present study Vaccine ascertainment: Patient held vaccination cards-BHP records Mortality ascertainment: Household visits	Total number of children described: 1,657 Total number of children analysed: 1,633 Modifier: gender
Guinea Bissau F #6906(49) Bandim, Quinhamel and Oio regions (Additional references: #850(44))	Birth dates: 1979-1983 (NOT CLEAR) Study period: 1980-1983 Follow-up: ≤ 60 months	MCV at 4-8 months vs. MCV at 9-11 months; MCV at 4-5 months vs. MCV at 9-11 months; MCV at 6-8 months vs. MCV at 9-11 months (Schwarz type, campaign)	This observational cohort study reports results from several measles vaccination campaigns conducted in one urban and two rural areas of Guinea-Bissau, since 1979. Children were vaccinated between 1980 and 1983, at 4-8 and 9-11 months of age and were followed until migration, death or the age of 5 years. Inclusion Criteria: MCV vaccinated children between 1980 and 1983 Exclusion Criteria: Measles infection, acute and delayed deaths, measles deaths, migration Vaccine ascertainment: Routine registration system Mortality ascertainment: Routine Registration system-Household visits-Interview with parents/relatives	Total number of children described: 562 Total number of children analysed: not reported No modifier reported

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
Guinea Bissau G #78(50) Six sub-urban districts of Bissau (Additional references: #8931(51))	Birth dates: 2004-2008 Study period: aged 6-35 months between 14 to 18 December 2007 and 30 June to 4 July 2008 Follow-up: ≤ 36 months	BCG+OPV+DTP vs. BCG+OPV (24 months); DTP+ MCV vs. DTP; DTP+MCV vs. MCV; MCV vs. no MCV (vaccine type/strain not reported, routine vaccination)	This observational cohort study evaluated the effect of VAS provided in campaigns on child survival overall and by sex and vaccination status at the time of supplementation. The study was conducted in the urban study area of the Bandim Health Project in Guinea-Bissau. The authors documented participation or non-participation in two national vitamin A campaigns conducted from 14 to 18 December 2007 and 30 June to 4 July 2008 for children between 6 and 35 months of age. Vaccination status was ascertained by inspection of vaccination cards. All children were followed prospectively until 30 June 2008 for the 2007 campaign and 9 January 2009 for the 2008 campaign. Mortality rates for supplemented and non-supplemented children were compared. During the study period, three trials of alternative vaccination strategies took place in the BHP area: (i) Booster DTP from October 2005 to October 2009; early MCV from August 2003 and April 2007; MCV + DTP3 for children with delayed vaccination from October 2005 to April 2008. Inclusion Criteria: children aged 6- 35 months living in the urban study area on the first day of the VAS campaigns in 2007 and 2008 Exclusion Criteria: unknown campaign status and censored, not visited, moved before visit, died prior to visit, completed 3 years prior to visit , received VAS in RCT between campaign and visit, VAS shortly before the campaign Vaccine ascertainment: Recorded at the point of vaccination-Routine household visits Mortality ascertainment: Verbal autopsy	Total number of children described: 8053 (6026 from the 2007 campaign and 2027 newly added in 2008 campaign) Total number of children analysed: 5799 Modifier: Gender, VAS
Guinea Bissau G #9440(52) BHP study area (urban and rural) (Additional references: #8931(51))	Birth dates: 2006-2010 (NOT CLEAR) Study period: 2007-2010 Follow-up: ≤ 12 months	DTP+MCV vs. DTP; DTP+MCV vs. MCV (DTP: Serum Institute of India, India and Bio Farma, Indonesia, MCV: Measles Vaccine (Edmonston-Zag reb) from Serum Institute of India, India and Rouvax (Schwarz) from Sanofi-Pasteur, France, research purpose)	This is a randomised trial (NCT00514891) that enrolled children 6 to 23 months in Bissau area between August 2007 and November 2010 to evaluate the effect of vitamin A supplementation (VAS) on all-cause mortality in vaccinated children. Children were randomized 1:1 to VAS (100,000 IU if aged 6-11 months, 200,000 IU if aged 12-23 months) or placebo at vaccination contacts, stratified by gender, and followed to migration, death or subsequent VAS for up to 12 months. When a death was registered an interview was conducted to determine the cause of death. Mortality rates were compared in Cox proportional hazards models overall, and by sex and vaccine. Nine VAS campaigns occurred during the trial period. Inclusion Criteria: Children aged 6-23 months due to be vaccinated were invited to participate at health centers (urban areas) and vaccination posts (rural area)	Total number of children described: 7587 Total number of children analysed: 7539 Modifier: Gender, VAS

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
			Exclusion Criteria: VAS within the preceding month and taking part in another trial Vaccine ascertainment: Prospectively. UNICEF certified vaccines delivered through the national vaccination program (DTP, OPV, MCV and YF) Mortality ascertainment: Interview was conducted to determine the cause of death (children who died due to accidents was censored on the date of death)	
Guinea Bissau G #9441(53) BHP study area (urban and rural) (Additional references: #8931(51))	Birth dates: 1997-2004 (NOT CLEAR) Study period: aged 12-23 months between January 1, 1999-May 15, 2006 Follow-up: 12-24 months	MCV vs. no MCV (vaccine type/strain not reported, campaign)	This observational study reports on children aged 12-23 months who had their vaccination card inspected between 1 January 1999 and 15 May 2006, MCV coverage was assessed, and mortality of measles-vaccinated and measles-unvaccinated children was compared. The main aim of this article was to evalaute the impact of the introduction by GAVI of the pentavalent (DTP-HepB-HiB) and yellow fever vaccines in 2008 in the Bandim Health Project area, which assesses vaccination status and mortality in 182 randomly selected village clusters in rural Guinea-Bissau. Vaccination coverage by 12 months of age was assessed in two cohorts of children born between (i) January to April 2007 (completed 12 years of age before the introduction of new vaccines and before the shortage of DTP vaccine between May and September 2008); and (ii) January to April 2009.No data on mortality is reported for these two cohorts Inclusion Criteria: Children aged 12-23 months who had their vaccination card inspected between 1 January 1999 and 15 May 2006, the date of the national MCV campaign, were included in the survival analysis Exclusion Criteria: Not reported Vaccine ascertainment: Routine household visits-Vaccination cards Mortality ascertainment: Routine Household visits	Total number of children described: 18,050 Total number of children analysed: 10,112 Modifier: Gender, VAS
Guinea Bissau G #9442(54) BHP study area (urban and rural) (Additional references: #8931(51))	Birth dates: 2005-2011 (NOT CLEAR) Study period: aged 6-23 months between August 13, 2007-November 28, 2010 Follow-up: 18-36 months	MCV+DTP vs. MCV (Measles: Edmonston-Zagreb and Schwarz type, research purpose)	This observational study reports on children aged 6-23 months in urban and rural Guinea-Bissau who participated during 2007 to 2011 in a randomised placebo-controlled trial of VAS at routine vaccination contacts and were randomized to placebo and received live vaccines only (MCV or MCV+YF) or a combination of live and inactivated vaccines (MCV+DTP or MCV+YF+Pentavalent). Mortality was compared in Cox proportional hazards models stratified for urban/rural enrolment and adjusted for age and unevenly distributed baseline factors. Inclusion Criteria: Children aged 6-23 months who were eligible to receive one or more vaccines	Total number of children described: 3,800 Total number of children analysed: 2,331 Modifier: Gender, VAS

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
			Exclusion Criteria: vitamin A within the preceding month, being part of another randomised trial, No measles vaccine at enrolment, Combination of new and old vaccination program, Lost to follow-up, not re-identified in the area, moved prior to enrolment, enrolled twice Vaccine ascertainment: Recorded at the point of vaccination-Routine household visits Mortality ascertainment: Interview	
Guinea Bissau H #1468(55) Belem and Mindara (districts of Bissau) (Additional references: #3896(56), #4243(57))	Birth dates: 1993-1995 Study period: 1993-1995 Follow-up: ≤ 35 months	DTP (3 doses) vs. DTP (0-2 doses) (different age groups: 9-17 months, 18-35 months) (vaccine type/strain not reported, research purpose)	This observational cohort study reports results from a randomised, double-blind, placebo-controlled study evaluating the effect of simultaneous vaccination and vitamin A supplementation in 474 children who received either a two-dose schedule of measles vaccine at the ages of 6 months and 9 months (150 infants) or one dose of measles vaccine at age 9 months (312 infants). Some children received DTP after MCV, and the current report analysed data according to the DTP vaccination status, with children being classified as fully or incompletely DTP vaccinated at 9 months of age, when they received MCV. Inclusion Criteria: information from #3896:Not clearly stated: children reaching 6 months of age in the Belem and Mindara districts of Bissau between 1993-1995 Exclusion Criteria: Signs of xerophthalmia or a history of previous vitamin A supplementation, measles infection before 9 months of age, positive haemagglutinin-inhibition assay (HIA) titre at age 9 months, measles infection between 9 months and 18 months of age Vaccine ascertainment: Routine household visits-Patient held vaccination cards Mortality ascertainment: Household visits	Total number of children described: 474 Total number of children analysed: 455 Modifier: Gender, VAS
Guinea Bissau H #2543(58) Belem and Mindara (districts of Bissau) (Additional references: #3896(56), #4243(57))	Birth dates: not reported Recruitment: not reported Follow-up: ≤ 18 months	Early MCV (at 6 months) vs. IPV (at 6 months) (Schwarz measles vaccine, research purpose)	This is a re-analysis of a randomized trial evaluating the effect of simultaneous vaccination and vitamin A supplementation in 279 children who received either a two-dose schedule of measles vaccine at the ages of 6 months and 9 months (141 infants) or one dose of measles vaccine at age 9 months (138 infants) Inclusion Criteria: not reported Exclusion Criteria: not reported Vaccine ascertainment: not reported Mortality ascertainment: not reported	Total number of children described: 300 Total number of children analysed: 279 Modifier: VAS

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
Guinea Bissau H #9434(40) Bandim (6 suburban districts) (Additional references: #3896(56), #4243(57))	Birth dates: 1993-1995 (NOT CLEAR) Study period: 1993-1995 Follow-up: ≤ 60 months	Two doses MCV (6 & 9 months) vs. one dose MCV (9 months) + IPV at 6 month(vaccine type/strain not reported, research purpose)	Re-analysis of two RCTs, one of which was relevant: early two-dose schedule of measles vaccine at 6 and 9 months of age vs. one dose of measles vaccine at 9 months of age. Children were also randomized to vitamin A. Inclusion Criteria: Children who participated in the early two-dose measles vaccination and vitamin A trial in 1993-1995 Exclusion Criteria: Measles infection prior to enrolment Vaccine ascertainment: Trial Database Mortality ascertainment: Trial Database	Total number of children described: 1,698 Total number of children analysed: 1,698 Modifier: gender
Guinea Bissau I #839(59) Bissau area	Birth dates: 1989-1999 Study period: 1989-1999 Follow-up: ≤ 12 months	BCG vs. no BCG; BCG at 1 week vs. no BCG; BCG at 6 weeks vs. no BCG; BCG at 1 week vs. BCG at 6 weeks (At 6 and 12 months) (vaccine type/strain not reported, routine vaccination)	This is an observational cohort of low-birth-weight children born at the hospital in Bissau between 1989 and 1999 and vaccinated with BCG. The effect of early BCG vaccination (first week of life) or delayed vaccination (6 weeks of life) on all-cause mortality was assessed by comparing vaccinated vs. unvaccinated children. Inclusion Criteria: LBW children born at the central hospital in Bissau between 1989-1999 with a recorded vaccination status and still living in the study area at the first home visit Exclusion Criteria: not reported Vaccine ascertainment: Review of vaccination health records-Patient held vaccination cards-Household visits Mortality ascertainment: not reported	Total number of children described: 845 Total number of children analysed: 722 Modifier: gender
Guinea Bissau J #2570(60) Bandim I, Bandim II, Belem and Mindara (4 districts in Bissau) (Additional references: #756(61))	Birth dates: 1996-1998 (NOT CLEAR) Study period: 1996-1998 Follow-up: ≤ 18 months	BCG at 1m vs. BCG after 1m; MCV at 6 m & 9m vs. IPV at 6m & MCV at 9m (BCG: Pasteur Mérieux, France (1996–1997), Statens Serum Institut, Denmark (1997–1998), MCV: standard-titre measles vaccine, research purpose)	This observational study reported on data from two partly overlapping cohorts within the two-dose study of standard-titre measles vaccination on which children were evaluated from October 1996 and May 1998. Children were randomized to receive either one dose of IPV or MCV at 6 months of age and MCV at 9 months of age. BCG scar at 6 months of age and skin-test for delayed hypersensitivity to tuberculin, tetanus and diphtheria were conducted in BCG-vaccinated children. Survival was assessed through the routine registration system in the study area in the beginning of year 2000. Inclusion Criteria: Children who participated in the scar study (27 November 1996 to 26 May 1998) and children who participated in the anergy study (Between 14 October 1996 and 3 September 1997) Exclusion Criteria: BCG unvaccinated, BCG vaccination 1 month prior to scar assessment, no	Total number of children described: 1970 Total number of children analysed: 1813 No modifier reported

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
			information on BCG scar, no information on tuberculin reaction Vaccine ascertainment: Demographic Surveillance System-Health Cards Mortality ascertainment:not reported	
Guinea Bissau K #660(62) Bandim I, Bandim II, Belem and Mindara (4 districts in Bissau) (Additional references: #754(63))	Birth dates: March 2000-July 2002 Study period: 2000-2002 (NOT CLEAR) Follow-up: ≤ 18 months	BCG vs. no BCG (Pasteur Merieux (France), Intervax Biologicals (Canada), routine vaccination)	This observational study examined whether a positive tuberculin skin test and BCG scar in response to BCG immunization were related to better overall survival in Guinea-Bissau and, if so, whether the effect was sex-specific. Skin tests and BCG scarring were monitored at ages 2 months (n = 2332) and 6 months (n = 1817) in children born from March 2000 to July 2002. A tuberculosis (TB) surveillance system allowed the exclusion from the analysis of children with likely TB exposure. The children were followed for survival until 18 months of age. Inclusion Criteria: born from March 2000 to July 2002, at least one valid BCG scar and tuberculin skin test assessment, at least one household visit after the skin test and scar assessment Exclusion Criteria: likely TB exposure, BCG scar-tuberculin skin test not assessed: missing or absent, drop-outs: emigration, death before 6 months, refused participation Vaccine ascertainment: Recorded at the point of vaccination-Patient held vaccination cards-Household visits Mortality ascertainment: Interview with parents/relatives	Total number of children described: 3905 Total number of children analysed: 1847 No modifier reported
Guinea Bissau L #8668(64) Bandim (Additional references: #6777(65))	Birth dates: not reported Study period: 1978-1981 (NOT CLEAR) Follow-up: ≤ 35 months	MCV vs. no MCV (vaccine type/strain not reported, research purpose)	Observational cohort conducted in Bandim (district of the capital of Guinea Bissau), a region under surveillance for measles infection since December 1978. In December 1979 (after a severe measles epidemic in early 1979) vaccination was offered to measles susceptible children aged 6 months or more. Mortality rates were calculated for children 6 to 35 months of age one year before the introduction of measles vaccine until January 1981 (two years after the introduction of measles vaccine). Inclusion Criteria: Aged 6-35 months, without measles infection, MCV unvaccinated, residents of Bandim during the 1979 re-examination,with a file card in the health center at the begining of 1981 Exclusion Criteria: Not clearly stated (Not regular follow-up, not possible to be re-identified, lost health center cards) Vaccine ascertainment: Recorded at the point of vaccination-Patient held vaccination cards-Review of vaccination centre records Central health file (only children unvaccinated at	Total number of children described: 704 Total number of children analysed: 704 No modifier reported

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
			beginning of 1981) Mortality ascertainment: Verbal autopsy	
Guinea Bissau M #6992(66) Bandim I, Bandim II (additional references: #8704(67))	Birth dates: August 1, 1984-September 31, 1985 Study period: 1984-1987 (NOT CLEAR) Follow-up: ≤ 34 months	MCV vs no MCV (monovalent, Schwarz measles vaccine, research purpose)	This observational cohort study reported on vaccine efficacy and mortality in children born between 1 August 1984 and 31 September 1985 in two districts in Bissau where vaccine coverage for children aged 12-23 months was 81% (Bandim 1) and 61% (Bandim 2). Some of these children took part in a randomized controlled trial of measles vaccine (Guinea Bissau N) and received Schwartz measles vaccine at 9 months. Inclusion Criteria: Born between 1 August 1984 and 31 September 1985, registered in Bandim I and II before 4 months of age Exclusion Criteria: Exclusion criteria for all cause or non-targeted mortality not reported Vaccine ascertainment: Recorded at the point of vaccination (not clear this was the case)- Household visits Mortality ascertainment: Routine household visits	Total number of children described: 2722 Total number of children analysed: not reported No modifier reported
Guinea Bissau O #6888(68) Bandim I	Birth dates: August 1, 1984-September 30, 1985 Study period: 1985 Follow-up: ≤ 60 months	MCV vs. no MCV (Edmonston-Zagreb and Schwarz strain, research purpose)	This randomized controlled trial aimed to examine the protective efficacy of medium-titre Edmonston-Zagreb (EZ) measles vaccine (10 4.6 p.f.u.) + inactivated polio vaccine (IPV) at 9 months compared with IPV at 4 months and standard Schwarz (SW) measles vaccine (10 3.8 p.f.u.) at the age of 9 months. If not vaccinated by the age of 9 months, children of both groups received only one vaccine, either the EZ or the SW measles vaccine. In May-June 1990, after 5 years of follow up all-cause mortality were reported. Inclusion Criteria: children born between 1 August 1984 and 30 September 1985 and registered in Bandim 1 before 4 months of age Exclusion Criteria: Not clearly stated Vaccine ascertainment: Recorded at point of vaccination Mortality ascertainment: Routine Registration system	Total number of children described: 470 Total number of children analysed: 470 Modifier: gender
Guinea Bissau P #2622(69) Bandim I, Bandim II, Belem and Mindara (4	Birth dates: not reported Study period: 7 March 1998-6 June 1998 Follow-up: ≤ 20	MCV vs. no MCV ; DTP vs. no DTP; DTP & Polio vs. DTP & Polio unvaccinated (vaccine type/strain not	This observational study used the Bandim Health Project's register to evaluate gender-specific effects of DTP, Polio and measles vaccines during the war in Guinea-Bissau in 1998. The study included 1491 children aged 1-17 months for which vaccination status had been assessed 3 months before the war. All-cause mortality during the war was reported for children vaccinated and unvaccinated with DTP and measles vaccines.	Total number of children described: 2800 Total number of children analysed: 1419 Modifier: gender

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
districts in Bissau)	months	reported, routine vaccination)	Inclusion Criteria: not reported (The study included 1491 children aged 1–17 months in four urban districts in Bissau) Exclusion Criteria: not reported Vaccine ascertainment: Routine Household visits-Vaccination cards-Review of vaccination centre records Mortality ascertainment: Verbal autopsy	
Guinea Bissau P #3857(70) Bandim I, Bandim II, Belem and Mindara (4 districts in Bissau)	Birth dates: June 7, 1997-December 6, 1997 Study period: 7 June 1997-6 December 1997 Follow-up: ≤ 18 months	MCV vs. no MCV (IPV) at 6 months (vaccine type/strain not reported, research purpose)	During the 1998 war in Guinea-Bissau, most children fled from the city of Bissau and immunization services in the country were interrupted for three months (June 1998-August 1998). A randomized controlled trial in which children were randomized at 6 months of age to receive either measles vaccine or inactivated polio vaccine was underway and interrupted because of the war. As a result many children did not receive the dose of measles vaccine planned for 9 months of age. We were able to monitor mortality during the war and after. All-cause mortality in children vaccinated or unvaccinated with measles vaccine was reported. Comparisons were made between the pre-war period (December 1997-June 1998), the war period (June-August 1998) and the post-war period (September 1998-December 1998). Inclusion Criteria: not reported Exclusion Criteria: one death because of abandonment was excluded from the analysis, children were excluded once they received their 9 month vaccination Vaccine ascertainment: Vaccination cards Mortality ascertainment: Verbal autopsy	Total number of children described: 642 Total number of children analysed: 368 Modifier: gender
Guinea Bissau P #6288(71) Bandim I, Bandim II, Belem and Mindara (4 districts in Bissau)	Birth dates: Children born before March 1, 1998 Study period: not reported Follow-up: ≤ 59 months	MCV vs. no MCV; (DTP) Tetanus vs. no tetanus (standard measles vaccine, routine vaccination)	This observational study is based on the results of national vaccination campaigns conducted in 1998 and 1999 in the Bandim Health Project's study area in Guinea-Bissau, and also included children that participated in a two-doses measles trial. All-cause mortality children were reported for the war period during the war until. Mortality in children born before 1 March 1998 and vaccinated with measles and/or tetanus was compared to mortality in unvaccinated children during the war period (June to December 1998) and one year after the war ended (December 1999). Inclusion Criteria: children born before March 1, 1998, who were at least 2 weeks old on the last national immunisation day. During the war period, the surveillance included all children	Total number of children described: 6,159 Total number of children analysed: 4696 No modifier reported

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
			less than 5 years of age Exclusion Criteria: Since information from neighbours was clearly different, these children were excluded and the analysis was limited to the 4696 children under 5 years of age with information from the mother or family members Vaccine ascertainment: Routine Household visits-Vaccination cards Mortality ascertainment: Verbal autopsy	
Guinea Bissau Q #2460(72) Bissau, Paediatric ward	Birth dates: not reported Study period: May 2001-April 2002 Follow-up: ≤ 59 months	BCG+DTP vs. BCG (Age groups: 0-5 months, 6-11 months, 12-23 months, 24-35 months, 36-59 months) (vaccine type/strain not reported, routine vaccination)	Observational cohort reporting results results for the children hospitalised between May 2001 and April 2002 (Study 2) at the paediatric ward in Bissau. Vaccination cards were examined at admission by a nurse. During May-June and August-September 2001, DTP vaccine was missing from the local health centers and therefore some children only received OPV. The effect of DTP vaccination status (DTP vs no DTP) on hospital mortality was therefore examined. Inclusion Criteria: Children less than 5 years hospitalised between May 2001 and April 2002, hildren whose vaccination card had been seen and who had received at least one of the three regular doses of OPV, i.e. the OPV possibly given together with BCG at birth was not considered one of these doses Exclusion Criteria: children with a documented measles vaccination were excluded Vaccine ascertainment: Vaccination cards, Interview with parent or guardian Mortality ascertainment: Facility health records	Total number of children described: 2,126 Total number of children analysed: 719 No modifier reported
Guinea Bissau Q #2411(73) Bissau, Simao Mendes National Hospital	Birth dates: not reported Study period: 1990-1996 Follow-up: ≤ 17 months	MCV vs. no MCV (vaccine type/strain not reported, routine vaccination)	Observational cohort reporting results for the children hospitalized between at the paediatric yard at the Simão Mendes National Hospital in Bissau (Study 1). During the period 1994 to 1996 vaccination cards were examined at admission at the hospital and children were classified as vaccinated, unvaccinated and unknown if vaccinated. The effect of BCG, DTP and MCV vaccination status on all cause hospital mortality was assessed. Inclusion Criteria: Hospitalised children between 1990-1996, aged 1.5-17 months coming from the Bandim study area Exclusion Criteria: Children known to have received measles vaccine were excluded from the analysis of the effect of DTP Vaccine ascertainment: Routine household visits-Vaccination cards-Review of vaccination	Total number of children described: 2079 Total number of children analysed: 1624 Modifier: gender

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
			health records-2 dose measles trial database Mortality ascertainment: Hospital records	
Guinea Bissau Q #2218(74) Bissau	Birth dates: not reported Study period: 1990-1996 and 2001-2002 Follow-up: ≤ 17 months	DTP simultaneously with or after MCV vs. DTP before MCV; DTP after vs. before MCV in children who had received two doses of MCV; DTP simultaneously with or after MCV vs DTP before MCV in children who had received one dose of MCV (vaccine type/strain not reported, research purpose)	Observational cohort reporting results of in-hospital mortality of children having received DTP out of sequence (with or after measles vaccine). Children aged 6 to 17 months were hospitalized in the only paediatric ward in Bissau, during the periods of 1990 to 1996 (Study 1) and 2001 to 2002 (study 2). At admission at the hospital, vaccination cards were examined and the impact on all cause hospital mortality of having received DTP with or after MCV compared with DTP before MCV was assessed. In study 1 (1990-1996) mortality within 30 days of discharge from the ward was also assessed. Inclusion Criteria: children aged 6-17 months who had been hospitalised during 1990-1996 and 2001-2002 and had received MCV prior to hospitalisation Exclusion Criteria: Since most children in Bissau receive a booster dose of DTP and OPV at 18 months of age, we included only children aged 6–17 months in the analysis Vaccine ascertainment: Routine household visits-Vaccination cards Mortality ascertainment: not reported	Total number of children described: 779 Total number of children analysed: 779 Modifier: gender
Guinea Bissau R #1723(75) Bandim, Belem, Cuntum	Birth dates: October 2005-April 2008 (NOT CLEAR) Study period: October 2005-April 2008 Follow-up: ≤ 60 months	DTP (3-4 doses) vs. no DTP (Serum Institute of India, subsequently Bio Pharma in Indonesia, research purpose)	RCT aiming to test the hypothesis that receiving DTP and MCV simultaneously has negative non-specific effects compared with receiving MCV only. Children aged 9-48 months old, who were due to receive MCV and who were missing either DTP3 or DTP booster and OPV were enrolled in the study and randomised to MCV+DTP+OPV simultaneously, as currently recommended, or MCV+OPV only; randomization was stratified by gender. Children that received MCV during a campaign in May 2006 were still eligible for the trial and given DTP +OPV together with MCV; the only difference was that they received a "campaign card" to be later identified. Children, who received MCV in the campaign, also received vitamin A, and those ≥1 year received Mebendazole in the campaign. Inclusion Criteria: Children aged 9-48 months, had not received MCV at routine immunization, but had received at least 2 doses of DTP previously Exclusion Criteria: Errors at inclusion, other vaccines, older than 4 years of age, living outside the study area Vaccine ascertainment: Recorded at the point of vaccination	Total number of children described: 278 Total number of children analysed: 268 Modifier: gender

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
			Mortality ascertainment: not reported	
Guinea Bissau S #2202(76) Bandim I, Bandim II, Belem and Mindara (4 districts of Bissau) (Additional references: #8962(77))	Birth dates: August 1984-October 2001 Study period: NOT CLEAR Follow-up: ≤ 23 months	Early MCV (at 6 months) vs. IPV (at 6 months); DTP (3+ doses) vs. DTP (0-2 doses) (vaccine type/strain not reported)	Re-analysis of four trials of early MCV in the capital of Guinea-Bissau, aiming to examine whether DTP vaccine and IPV were associated with increased female mortality when they were the most recent vaccine administered to children who had not received measles vaccine. Inclusion Criteria: not reported Exclusion Criteria: not reported Vaccine ascertainment: recorded at the point of vaccination Mortality ascertainment: Verbal autopsy	Total number of children described: 9,544 Total number of children analysed: 9,544 No modifier reported
Guinea Bissau S #482(78) Bissau (mainly Bandim I and Bandim II) (Additional references: #8962(77))	Birth dates: 1 September 1994-31 January 1996 Study period: March 1995-June 1997 Follow-up: ≤ 23 months	CG vs. no BCG; BCG over 4 weeks before inclusion vs. BCG 0 to 4 weeks before inclusion; DTP3 over 4 weeks before inclusion vs. DTP3 0 to 4 weeks before inclusion)vaccine type/strain not reported, delivery strategy not reported)	Observational cohort aiming to examine whether thymus size at the age of 6 months is a determinant of subsequent mortality. The cohort was derived from a 2-dose measles RCT, in which participants received either MCV or IPV at 6 months. At age 9 months, both groups received MCV. Mortality data were reported according to the DTP and BCG vaccination status before inclusion in the measles RCT. Inclusion Criteria: not reported Exclusion Criteria: not reported Vaccine ascertainment: Recorded at the point of vaccination for MCV. No clear information provided for BCG or DTP Mortality ascertainment: Verbal autopsy	Total number of children described: 923 Total number of children analysed: 923 No modifier reported
Guinea Bissau T #8670(79) Quinhamel	Birth dates: not reported Study period: 1979-1982 (NOT CLEAR) Follow-up: ≤ 35 months	MCV vs. no MCV (vaccine type/strain not reported, research purpose)	Observational cohort study that describes the potential impact of nutritional status, age and crowding on mortality after a measles infection. The survey was performed from June 1979 to March 1982 and vaccination of measles-susceptible children 6 months and older was introduced from February-March 1981. Inclusion Criteria: not reported Exclusion Criteria: not reported	Total number of children described: 489 Total number of children analysed: 386 No modifier reported

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
			Vaccine ascertainment: not reported Mortality ascertainment: not reported	
Haiti #7013(80) Haiti (Cite Soleil, periurban slum)	Birth dates: October 1981 to April 1982 Study period: January-June 1985 Follow-up: ≤ 39 months of age	MCV (monovalent, research purpose) compared to unvaccinated children	Door-to-door survey conducted by trained nurses 2.5 years after completion of an RCT evaluating serologic response after MCV have been administered in the same population. Inclusion Criteria: Births in Cite Soleil between October 1981 and April 1982, Children that survived to 9 months of age and received MCV vaccine Exclusion Criteria: Children who were seropositive before vaccination and children whose pre-vaccination status was unknown Vaccine ascertainment: Review of health Centre records-Measles trial database Mortality ascertainment: questionnaire fulfilled by mother including date and age of the child at death	Total number of children described: 1381 Total number of children analysed: 1308 No modifier reported
India A #741(81) Tamil Nadu (two rural districts) (Additional references: #9221(82))	Birth dates: 12 August 1998-14 February 2002 Study period: 1998-2002 (not clearly stated) Follow up: ≤ 6 months	BCG vs. no BCG; BCG+DTP vs. BCG; BCG+DTP vs. no BCG, no DTP; BCG, no DTP vs. no BCG, no DTP; BCG vs. no BCG; DTP vs. no DTP; DTP vs. no DTP (vaccine type/strain not reported, routine vaccination)	Observational study based on the same cohort as the VASIN study - an RCT that included all live births between 12 August 1998 and 14 February 2002 in two rural blocks of Tamil Nadu. In order to assess the relationship between receipt of routine childhood immunizations and infant mortality before 6 months of age, all infants who received VAS and survived to at least 1 week of age and received BCG and DTP vaccinations were re-analysed, adjusted for age (1-2 months, 2-6 months), gender and VAS. Inclusion Criteria: Live births between 12 August 1998 and 14 February 2002 in two rural blocks of Tamil Nadu Exclusion Criteria: Stillborn, death before 7 days of life Vaccine ascertainment: Patient held vaccination cards-Interview with the mother Mortality ascertainment: Routine household visits	Total number of children described: 11,619 Total number of children analysed: 10,274 Modifier: Gender, VAS
India C #6720(83) Kaniyambadi block (60 villages)	Birth dates: 16 January 1986-31 December 1991 Study period: not reported Follow-up: ≤ 60 months	MCV vs. no MCV (monovalent type, Edmonston-Zagreb and Schwarz type, administered in campaign)	Observational cohort study aiming to measure the protective effect of standard-titre measles vaccine administered before 9 months of age and to compare overall mortality of children vaccinated at 6-8 months and at 9-11 months. Main outcome measures were risk of disease and death among the under-five-year-olds according to age at measles immunization. Inclusion Criteria: Children born to residents of the area between January 1 1986 and December 31 1991 Exclusion Criteria: Migration out of Kaniyabadi block without a date of migration and	Total number of children described: 16,665 Total number of children analysed: 13,134 No modifier reported

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
			vaccination after 12 months Vaccine ascertainment: Household visits Mortality ascertainment: Household visits-Verbal autopsy-Hospital records	
India E #8996(84) Shirur in Pune, Maharashtra	Birth dates: December 1987-November 1989 Study period: Not clearly stated Follow-up: ≤ 60 months	BCG only or BCG after DTP vs. no BCG; DTP as the most recent vaccine vs. no DTP; Only BCG vs. DTP after BCG or DTP only; BCG out-of-sequence vs. DTP recommended schedule; MCV+DTP simultaneously vs. MCV only; MCV before DTP vs. MCV only; BCG vs. no BCG, DTP vs. no DTP; BCG before vs. simultaneously with DTP; BCG before vs. BCG after DTP; MCV and DTP simultaneously vs. MCV before DTP; MCV vs. no MCV (vaccine type/strain not reported, routine vaccination)	Re-analysis of an observational cohort study conducted in 45 contiguous villages in Shirur Administrative Block in Pune District, Maharashtra, which retrospectively collected information on vaccinations during infancy and survival until 5 years of age. Inclusion Criteria: LBW children born between December 1987 and November 1989 in 45 contiguous villages in Shirur Administrative Block in Pune District Exclusion Criteria: Records were missing sex, had inconsistent information on sex in different files, no birthday or no exit day Vaccine ascertainment: Recorded at the point of vaccination-household visits Mortality ascertainment: not reported	Total number of children described: 4,129 Total number of children analysed: 3,883 No modifier reported
India F #2580(85) Ballabgarh block	Birth dates: January 1, 1991-December 31, 1998 Study period: April-	MCV vs. no MCV in cases and controls (vaccine type/strain not reported, routine	Population-based, case-control study conducted at Ballabgarh (an area in rural northern India) to determine whether vaccination against measles in a population with sustained high vaccination coverage and relatively low child mortality reduces overall child mortality. Inclusion Criteria: Children aged 12-59 months born between 1 January 1991 and 31 December	Total number of children described: 330 cases and 320 controls Total number of children analysed: 318 matched

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
(28 villages)	May 2000 Follow-up: 12-59 months	vaccination)	1998, registered in the electronic database of the project area Exclusion Criteria: Not fulfilling the matching criteria Vaccine ascertainment: Socio-demographic database Mortality ascertainment: Multipurpose health workers registered deaths during routine domiciliary visits	pairs No modifier reported
India G #9463(86) Ballabgarh block (28 villages)	Birth dates: January 1, 2006-December 31, 2011 Study period: 2006-unclear Follow-up: ≤ 36 months	BCG vs. no BCG; BCG+DTP vs. BCG; BCG+DTP+MCV vs. BCG+DTP; BCG+DTP vs. no BCG, no DTP; BCG+DTP+MCV vs. no BCG, no DTP, no MCV (Age groups: 0-5 weeks, 1.5-8 months, 9-15 months, 16-36 months) (MCV: monovalent type, research purpose)	Observational study explores the contribution of non-specific effects of DTP vaccination to the excess mortality among girls in 28 villages of Ballabgarh block in North India from 2006 to 2011. All live births in the study area from 2006 to 2011 were followed till 31st December 2011 or 36 months of age whichever was earlier. The unexposed group was defined as children who had not received any vaccine (very small number in higher age groups due to high vaccination coverage in the study area). As mortality is age dependent and vaccine eligibility also varies with time, four periods were defined: (i) 0-6 weeks (corresponds to the period between BCG eligibility and DTPp eligibility); (ii) 6 weeks to 8 months (corresponds to period between DTPp eligibility and Measles eligibility); (iii) 9-15 months (corresponds to Measles eligibility and DTPb eligibility); and finally (iv) 16-36 months (DTPb eligibility and end of the designated study period) Inclusion Criteria: Children born between 1 January 2006-31 December 2011 from 28 villages of the of Ballabgarh block in North India Exclusion Criteria: Missing immunization information, incomplete information on confounders Vaccine ascertainment: Review of electronic database: Mortality ascertainment: Review of electronic database	Total number of children described: 12,412 Total number of children analysed: 11,390 Modifier: gender
Malawi #664(87) Lungwena (additional references: #2625(88))	Birth dates: July 1995-February 1997 Study period: 1995-1997 Follow-up: ≤ 60 months	BCG vs. no BCG; DTP1 vs. no DTP; DTP2 vs. no DTP; DTP (3 doses) vs. no DTP; BCG as the last vaccine received vs.no BCG; DTP1 as the last vaccine received vs. no DTP; DTP2 as the last vaccine received vs. no	This observational cohort study was carried out in Lungwena, a rural area in southern Malawi, in 751 children born between July 1995 and February 1997 from 795 women enrolled at the antenatal clinic. Children were followed from birth with monthly home visits until 18 months of age and received vaccines according to WHO's EPI: BCG at birth, DTP and OPV at 6, 10 and 14 weeks, and MCV at 9 months. Survival in relation to vaccination status was investigated retrospectively and also prospectively on those present at monthly home visits for whom prospective vaccination information was likely to be most complete. Mortality rate ratios comparing vaccinated and unvaccinated children stratified by gender were reported. Inclusion Criteria: Children surviving the first week of age born between July 1995 and	Total number of children described: 751 Total number of children analysed: 747 Modifier: gender

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
		DTP; DTP3 as the last vaccine received vs. no DTP; MCV as the last vaccine received vs. no MCV (vaccine type/strain not reported, routine vaccination)	February 1997 in the antenatal clinic in Lungwena Exclusion Criteria: Missing vaccination information, stllborn, death in the first week of life, not visited Vaccine ascertainment: Review of health centre records-Household visits-Vaccination cards Mortality ascertainment: Verbal autopsy	
Nigeria #8985(89) Imesi and Ilesha	Birth dates: 1956-1961 Study period: 1962 (not clearly stated) Follow-up: ≤ 59 months	MCV vs. no MCV; MCV vs. pertussis/tetanus vaccines (Enders B strain, research purpose)	During the years 1956-61 an investigation into morbidity and mortality among children under 5 was undertaken in the village of Imesi, Western Nigeria, and at the nearby Wesley Guild Hospital in Ilesha 2. This quasi-randomised study aimed to examine the impact of measles vaccine on all-cause child mortality in the Ilesha District of Nigeria (1000 children received measles vaccine and 1000 children received only γ–globulin) and in the Imesi Village.For the latter, 26 children received liquid measles vaccines and 27 receiving pertussis/tetanus were used as a control. Children were followed up from 6 to 20 months. Inclusion Criteria: Not clearly stated Exclusion Criteria: not reported Vaccine ascertainment: Recorded at the point of vaccination Mortality ascertainment: not reported	Total number of children described: 2,053 Total number of children analysed: 2,007 No modifier reported
Papua New Guinea #784(90) Tari, Papua New Guinea Highlands	Birth dates: 1989-1994 Study period: 1989-1996 (not clearly stated) Follow-up: ≤ 24 months	BCG vs. no BCG; BCG vs. unvaccinated; BCG+DTP vs. BCG; DTP vs. no DTP; DTP vs. unvaccinated; DTP1-2 vs. unvaccinated; DTP vs. no DTP in children who received BCG; MCV vs. no MCV; MCV vs. unvaccinated; BCG after vs. DTP before (Age groups: 29 days-5 months, 6-11 months, 12-	This observational cohort aimed to determine the effects DTP, BCG,hepatitis B, and measles vaccines on mortality in the highlands of Papua New Guinea. Demographic events for children born between 1989 and 1994 who were under monthly demographic surveillance in Tari were recorded from birth until age 2 years (out-migration, death, or the end of the study period). Data on BCG, hepatitis B, DTP, measles and pneumococcal polysaccharide vaccination were collected monthly from clinic records. As vaccination status was not assigned at random, the mortality data was analysed by stratifying on a propensity score for any vaccination (the earliest of BCG, DTP, or measles). Inclusion Criteria: All children under demographic surveillance, born in Tari, between 1989 and 1994 Exclusion Criteria: Not under surveillance before age 60 days, born outside the area under	Total number of children described: 6,665 Total number of children analysed: 4,048 Modifier: gender

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
		23 months) (vaccine type/strain not reported, routine vaccination)	surveillance, stillbirths, died aged 29 days , left the study before 29 days of age , with uncertain vaccination dates , with unknown maternal age Vaccine ascertainment: Review of vaccination centre records Mortality ascertainment: Verbal autopsy	
Philippines #555(91) Metro Cebu (Additional references: #9458(92))	Birth dates: NOT CLEAR: <30 months of age between July 1988- January 1991 Study period: July 1988- January 1991 Follow-up: ≤ 30 months	DTP vs. no DTP (vaccine type/strain not reported, research purpose)	An observational cohort study that used data from primary care services in Metro Cebu, Philippines, to determine the non-specific effects DTP vaccination on child survival among those who received BCG vaccine in a high mortality area. Participants included children ≤ 30 months of age who received a BCG vaccination from July 1988 to January 1991. The main outcome measure was all-cause mortality. Inclusion Criteria: Children under 30 months of age who received a BCG vaccination from July 1988 to January 1991 Exclusion Criteria: Missing household or mother data, did not receive BCG vaccine, death before 1st baseline visit, censored before receiving BCG, without updated vaccination status after birth Vaccine ascertainment: Vaccination cards-Review of vaccination centre records Mortality ascertainment: Post mortem interviews	Total number of children described: 18,964 Total number of children analysed: 14,334 Modifier: gender
Philippines #451(93) Metro Cebu (Additional references: #9458(92))	Birth dates: not reported Study period: not reported Follow-up: ≤ 12 months	DTP vs. no DTP (vaccine type/strain not reported, research purpose)	This correspondence reported adjusted hazard ratios based on the proportional hazards regression model with adjustments for maternal education, low birth weight, ownership of TV/radio,stratified by age (5-26 weeks, 26–52 weeks, ≥ 52 weeks) and household cluster from the same cohort from Cebu, Philippines. Inclusion Criteria: not reported Exclusion Criteria: not reported Vaccine ascertainment: not reported Mortality ascertainment: not reported	Total number of children described: 18,964 Total number of children analysed: 14,334 Modifier: gender
Senegal A #6904(94) Niakhar	Birth dates: February 1985-January 1987 Study period: Not clearly stated	MCV vs. unvaccinated (Age groups: 9-23 months, 24-60 months) (Schwarz standard	Children born between February 1985 - January 1987 that participated in a high titre MCV trial in Niakhar (first cohort). Inclusion Criteria: children born in the Niakhar region in Senegal, from resident mothers, from February 1985 to January 1987	Total number of children described: 2,417 Total number of children analysed: 2,093

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
	Follow-up: ≤ 5 years	measles vaccine, research purpose)	Exclusion Criteria: not reported Vaccine ascertainment: Annual Demographic monitoring system-Household visits Mortality ascertainment: Post mortem parental interviews	Modifier: gender
Senegal B #6904(94) Niakhar (additional references: #6968(95); #2954(96); #6804(97); #6710(98); #2569(41))	Birth dates: February 1, 1985-January 31,1991 Study period: Not clearly stated Follow-up: ≤ 5 years	MCV vs. unvaccinated (Age groups: 9-23 months, 24-60 months) (Schwarz standard measles vaccine, research purpose)	Observational cohort of children born between 1985 and 1991 in Niakhar (second cohort), participating in several studies using DTP vaccine. The female/male mortality ratio among unimmunized children and children vaccinated with standard measles vaccines was examined Inclusion Criteria: children born in the Niakhar region in Senegal, from resident mothers, between February 1, 1985-January 31,1991 Exclusion Criteria: not reported Vaccine ascertainment: Recorded at the point of vaccination-weekly Demographic monitoring system-Household visits Mortality ascertainment: Post mortem parental interviews	Total number of children described: 2,417 Total number of children analysed: 2,093 Modifier: gender
Senegal C #6904(94) Niakhar	Birth dates: February 1989 - January 1991 Study period: Not clearly stated Follow-up: ≤ 5 years	MCV vs. unvaccinated (Age groups: 9-23 months, 24-60 months) (Schwarz standard measles vaccine, research purpose)	Observational cohort of children born between February 1989 to January 1991 in Niakhar and that participated in several DTP and MCV vaccine studies (third cohort). Inclusion Criteria: children born in the Niakhar region in Senegal, from resident mothers, from February 1989 to January 1991 Exclusion Criteria: not reported Vaccine ascertainment: Demographic monitoring system-Household visits Mortality ascertainment: Post mortem parental interviews	Total number of children described: 2417 Total number of children analysed: 2093 Modifier: gender
Senegal C #6791(99) Niakhar	Birth dates: February 1989- January 1991 Study period: 1989-unclear Follow-up:	MCV vs. no MCV (Schwarz standard measles vaccine, research purpose)	Observational cohort of children receiving EZ-HT at ± 6 months of age and SW-STD at ±9 months of age. When called for EZ-HT vaccination (5-7 months), 72.1% of the eligible children (928/1287) received vaccine. A similar proportion, 73.0% (609/834) received SW-STD when first called (9-10 months). Inclusion Criteria: children born to resident mothers in the 2 years following the completion of the high-titre trial; i.e., children born from February 1989 through to January 1991 Exclusion Criteria: not reported	Total number of children described: 2,396 Total number of children analysed: 2,121 No modifier reported

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
	≤ 59 months		Vaccine ascertainment: Recorded at the point of vaccination Mortality ascertainment: not reported	
Senegal C #740(100) Niakhar	Birth dates: September 1, 1989-August 31,1996 and September 1, 1996-December 31, 1999 Study period: Not clear Follow-up: ≤ 24 months	BCG+DTP vs. no BCG, no DTP; MCV vs. no MCV; MCV vs. no MCV (± BCG or DTP) (BCG/DTP type/strain not reported, MCV: Measles-Rubella type, routine vaccination)	Two observational cohorts (1989-1996 and 1996-1999) are reported separately in order to take into account the differences in vaccine coverage and data collection: The first cohort included 8277 children born in the Niakhar area between 1 September 1989 and 31 August 1996. The second cohort included 4114 children born in the same area between 1 September 1996 and 31 December 1999. Inclusion Criteria: The first cohort included 8277 children born in the Niakhar area between 1 September 1989 and 31 August 1996. The second cohort included 4114 children born in the same area between 1 September 1996 and 31 December 1999 Exclusion Criteria: Children who had received BCG and DTP1 on the same day, and those never vaccinated with BCG or DTP. This excluded 481 children (6%) from cohort 1 and 541 (13%) from cohort 2. Also children who had received only one of the vaccines, BCG and DTP as well as those having received DTP1 and BCG on different days, were excluded after a first examination of the data set Vaccine ascertainment: Recorded at the point of vaccination-Patient held vaccination cards Mortality ascertainment: Household visits,	Total number of children described: 12,391 Total number of children analysed: 11,369 No modifier reported
Senegal C #9432(101) Niakhar	Birth dates: February 1989-February 1997 Study period: Not clearly stated (1989-1997) Follow-up: ≤ 9 months	BCG & DTP vs. DTP; DTP & BCG vs. no vaccine; DTP vs. no DTP (vaccine type/strain not reported, research purpose)	Observational cohort of children born between 1989-1997: Children born between 1987-1989 that participated in a HTMV trial in the area (Niakhar), and between 1989-1997 that participated in several studies using DTP vaccine (Niakhar). Inclusion Criteria: born between February 1989 and February 1997,registered in the Niakhar study area, aged>2 months Exclusion Criteria: migration, death, receiving measles vaccine, becoming 9 months of age Vaccine ascertainment: Recorded at point of vaccination Mortality ascertainment: not reported	Total number of children described: 9,683 Total number of children analysed: 8,291 Modifier: gender
Senegal D #9433(102) Niakhar	Birth dates: September 1996-December 1999 Study period: Not	BCG+MCV vs. unvaccinated; DTP1 before BCG vs. unvaccinated; BCG before DTP1 vs.	Observational cohort of children born in Niakhar, Senegal between September 1996 and December 1999. Vaccinations were provided in the three local health centres, and information on vaccinations was collected through 3-monthly home visits. The article reports survival analyses estimating the effect of vaccination with BCG, DTP and/or MCV from the date the vaccination was registered until the date of the registration of the next	Total number of children described: 4,133 Total number of children analysed: 4,102

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
	clearly stated Follow-up: ≤ 24 months	unvaccinated; BCG+DTP vs. BCG; BCG+DTP1 vs. BCG; BCG+DTP1 vs. unvaccinated; BCG+DTP1-2 vs. unvaccinated; BCG+DTP1-3 vs. unvaccinated; BCG+DTP+MCV vs. unvaccinated; DTP1+MCV vs. unvaccinated; DTP1-2+MCV vs. unvaccinated; DTP1-3+MCV vs. unvaccinated (vaccine type/strain not reported, routine vaccination)	vaccination, death, migration, or the end of the study at 24 months of age, whichever came first. The effect of BCG and DTP were compared according to the sequence of these vaccinations, i.e. BCG-first, BCG plus DTP1-first, or DTP1-first.In addition, DTP and MCV between 9 and 24 months of age were compared and reported. After 1997 there was a change in collection of vaccination information and a drop in vaccine coverage. Inclusion Criteria: Children born in Niakhar, Senegal between September 1996 and December 1999 Exclusion Criteria: not reported Vaccine ascertainment: Recorded at the point of vaccination-Household visits-Vaccination card Mortality ascertainment: not reported	Modifier: gender
South Aftrica #467(103) Cape Town (Additional references: #616(104))	Birth dates: March 26, 2001-July 31, 2004 Study period: 2001-20014 Follow-up: ≤ 24 months	BCG percutaneous vs. BCG intradermal (mode of administration) (Tokyo (Japanese) type/strain, research purpose)	RCT evaluating infants born between 26 March 2001 and 31 July 2004 that were randomised by week of birth to receive Tokyo 172 BCG vaccine through the percutaneous route (n=5775) or intradermal route (n=5905) within 24 hours of birth and followed up for two years. The primary outcome measure was documented Mycobacterium tuberculosis infection or radiological and clinical evidence of tuberculosis disease. Secondary outcome measures included all-cause mortality. Inclusion Criteria: Born at one of the five public obstetric units in the study area, eligible for BCG vaccination within the 1st 24hours of birth, mothers residents in the study area Exclusion Criteria: Antenatal and perinatal complications, women who had agreed to the trial but declined after enrolment,ineligible to receive routine BCG vaccination within 24 hours of birth Vaccine ascertainment: Recorded at point of vaccination Mortality ascertainment: not reported	Total number of children described: 11,680 Total number of children analysed: 11,680 Modifier: gender

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
Sudan #2297(105) Umdawanban and Essilat (peri-urban regions of Khartoum) (Additional references: #3875(106))	Birth dates: January 1, 1989-October 1, 1989 Study period: Not clearly stated Follow-up: ≤ 36 months	DTP3+MCV vs. DTP0-2+MCV (monovalent type, Edmonston-Zagreb, Schwarz , AKC strain, research purpose)	This observational cohort is based on the results of an RCT evaluating EZ high-titre measles vaccines, Connaught HTMV or a control vaccine (meningococcal) in 510 children born from 1 January to 1 October of 1989 from rural Sudan. All children received DTP prior to Study period in the trial, and both the Connaught HTMV and the control group received standard measles vaccine at 9 months. Mortality rates are reported for children 10 to 36 months stratified by gender, type of measles vaccine and number of DTP doses. Inclusion Criteria: children born from 1 January to October 1, 1989 from rural Sudan Exclusion Criteria: not reported Vaccine ascertainment: Not clearly stated Mortality ascertainment: not reported	Total number of children described: 510 Total number of children analysed: 510 Modifier: gender
USA A #8747(107) Arizona, Wyoming, Dakota, Alaska	Birth dates: not reported Study period: 1935-1947(NOT CLEAR) Follow-up: ≤ 60 months	BCG vs. No BCG	This quasi-randomised controlled trial involved 3008 American Indians from Arizona, Wyoming, Dakota, Alaska ranging in age from ≤ 1 year to up to 20 years that did not react positively to PPD. Participants were stratified by gender and age and received BCG or no BCG. All-cause mortality and mortality per tuberculosis were provided were provided separately for the 0-4 years old age group for BCG vaccinated and unvaccinated. Inclusion Criteria: Native American Indians, aged 1-20 years, residents of Arizona, Wyoming, Dakota, Alaska who failed to react or gave doubtful reaction to tuberculin PPD skin test Exclusion Criteria: loss to follow up Vaccine ascertainment: Recorded at the point of vaccination Mortality ascertainment: not reported	Total number of children described: 3,008 Total number of children analysed: 846 (children ≤ 4 years of age) No modifier reported
USA B #9244(108) Chicago	Birth dates: 1941-unclear Study period: 1941-unclear (The study started in 1941 and children were followed up for 19	BCG vs. No BCG ("fresh" , "freeze-dried" BCG vaccine, research purpose)	This quasi-randomised controlled trial involved 451 infants born to mothers known to have tuberculosis (TB). Newborns were placed in foster care known not to have TB. Participants were stratified by family TB status, severity of disease in the family and randomised to receive BCG or no BCG. Randomisation procedure was "alternating" newborns to intervention or control groups, and drawn independently of the stratification process; performed by a physician not involved with the filed work. Non-target mortality and TB mortality were provided for BCG vaccinated and unvaccinated during the 19 years follow up.	Total number of children described: 451 Total number of children analysed: 258 No modifier reported

Article group Ref ID (citation) Region (Additional references)[1]	Birth dates Study period Follow up	Vaccines administered (type, strain, reason)	Details of the included article	Total number of children described/analysed Effect Modifier
	years, but the years of enrolment to the trial are unclear Follow-up: ≤ 60 months		Inclusion Criteria: Participants were newborns from tuberculous households placed in foster homes Exclusion Criteria: Not clearly stated Vaccine ascertainment: Recorded at the point of vaccination Mortality ascertainment: Autopsy	

References of included articles

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