SUPPLEMENTARY APPENDIX

Respiratory Symptoms Form (RSF)

SECTION A: Wheezing and asthma

1. Have you (has your child) ever had wheezing or whistling in the chest at any time in the past? ["NO" = 0, "YES" = 1, "NA" = 9][If "NO", go to question 2].
    a. Have you (has your child) had wheezing or whistling in the chest in the past 12 months? ["NO" = 0, "YES" = 1, "NA" = 9]
    b. In the past 12 months, how many attacks of wheezing have you (has your child) had? ["1 – 3 attacks" = 1, "4 – 12 attacks" = 2, "12 or more attacks" = 3, "NA"=9].
    c. In the past 12 months, have you (your child) ever had a wheezing attack that made you (your child) feel short of breath?
    ["NO" = 0, "YES" = 1, "NA" = 9]
    d. In the past 12 months, how many nights in a week, on average, has your (your child's) sleep been disturbed due to wheezing or whistling?
    ["NO" = 0, "YES" = 1, "NA" = 9]
    e. In the past 12 months, has wheezing ever been severe enough to limit your (your child's) speech to only one or two words at a time between breaths?
    ["NO" = 0, "YES" = 1, "NA" = 9]
2. Have you (has your child) ever had asthma? ["NO" = 0, "YES" = 1, "NA" = 9][If "NO", go to question 3].
    a. Has a doctor or health worker ever told you that you have (your child has) asthma?
    ["NO" = 0, "YES" = 1, "NA" = 9]
    b. At what age did your (your child's) asthma start?
    c. Do you (your child) still have asthma?
    ["NO" = 0, "YES" = 1, "NA" = 9]
    d. At what age did your (your child's) asthma stop?
3. In the past 12 months, have you (has your child) had a dry cough at night, apart from a cough associated with a cold or chest infection? ["NO" = 0, "YES" = 1, "NA" = 9]

SECTION B: Cough and phlegm

4. Do you (does your child) usually cough? (usually means more than half the time or "more than normal") ["NO" = 0, "YES" = 1, "NA" = 9] [If "NO", go to question 5].

a. Do you (does your child) cough as much as 4 to 6 times a day on 4 or more days out of a week?
   ["NO" = 0, "YES" = 1, "NA" = 9]
b. Do you (does your child) usually cough like this on most days for 3 consecutive months or more during the last two years? (Most days means ≥15 days in a month)
c. For how many years have you (has your child) had this cough?

5. Do you (does your child) usually bring up phlegm from your (your child's) chest? (Exclude phlegm from the nose. Count swallowed phlegm). ["NO" = 0, "YES" = 1, "NA" = 9] [If "NO", go to question 6].
   a. Do you (does your child) usually bring up phlegm like this as much as twice a day on 4 or more days out of the week? ["NO" = 0, "YES" = 1, "NA" = 9].
   b. Do you (does your child) bring up phlegm like this on most days for 3 consecutive months or more during the last two years?
      ["NO" = 0, "YES" = 1, "NA" = 9]
   c. For how many years have you (your child) had phlegm?
      ["NO" = 0, "YES" = 1, "NA" = 9]

SECTION C: Chest colds and chest-illness

6. When you/your child get a cold, does it usually attack your chest?
   ["NO" = 0, "YES" = 1, "NA" = 9]
7. During the past 3 years, have you/your child had any chest illnesses that have kept you/your child off work, indoors at home, or in bed? ["NO" = 0, "YES" = 1, "NA" = 9][If "NO" stop].
   a. Did you (your child) produce phlegm with any of these chest illnesses?
      ["NO" = 0, "YES" = 1, "NA" = 9]
   b. In the last 3 years, how many such illnesses with (increased) phlegm did you (your child) have which lasted a week or more?

SUPPLEMENTARY TABLES

ETABLE 1. Crude number of responses or means (SD), regardless of ward, for the 3879 children who responded to the respiratory survey, stratified by supplement assignment group; NNIPS-1 follow-up study, Nepal, 2006 – 2008.

	Supplement assignment after birth	
	Placebo	**Vitamin A**
Sample size	1824	2055

SES (n/N)			
	Lower caste	1465/1819	1600/2044
	Land ownership	1505/1815	1701/2042
	Owns livestock	1634/1819	1780/2043
	Owns radio	877/1814	918/2043
	House without roof or with a thatch roof	682/1822	844/2052
	House without walls or thatch-made walls	1474/1822	1542/2052
	Maternal literacy	164/1817	198/2047
	Father is farmer	1316/1822	1319/2052
Asthma prevalence (n/N)			
	Lifetime asthma (self-report)	29/1821	46/2053
	Physician diagnosis of asthma	12/1819	12/2052
	Mean age in years (SD of means) at the onset of asthma	11.0 (6.6)	11.3 (7.6)
	Current asthma (self-report)	14/1821	17/2053
Wheezing prevalence (n/N)			
	Lifetime wheeze	191/1818	257/2044
	Wheezing in the past year	116/1817	138/2035
	Wheezing attacks in the past year		
	1 – 3	57/1817	80/2035
	4 – 12	40/1817	42/2035
	12 or more	19/1817	16/2035
	Wheezing accompanied by shortness of breath in the past year	54/1744	76/1923
	Disturbed sleep from wheezing in the past year		
	Less than 1 night a week	24/1735	30/1920
	More than 1 night a week	30/1735	29/1920
Cough and phlegm prevalence (n/N)			
	Persistent cough (coughs more than normal)	125/1823	150/2055
	Chronic cough (3 months of consecutive cough in a 2 year period)	48/1819	50/2051

	Average number of years (SD) with cough	2.8 (3.1)	3.7 (4.8)
	Persistent phlegm (produces phlegm more than normal)	233/1823	223/2055
	Chronic phlegm (3 months of consecutive phlegm production in a 2 year period)	75/1822	75/2052
	Chronic productive cough	22/1823	21/2055
	Dry cough at night in the past year	104/1821	125/2053
	Average number of years (SD) with phlegm	2.4 (3.0)	2.8 (3.6)
	Chest-illnesses after colds	430/1814	517/2049
	Mean number of phlegm episodes (SD) with chest illness	2.5 (3.7)	2.5 (2.6)

ETABLE 2. Crude number of responses or means (SD), regardless of ward, for the 1551 children who responded to the respiratory survey, stratified by supplement assignment group; NNIPS-2 follow-up study, Nepal, 2006 – 2008.

			Supplement assignment after birth		
			Beta-carotene	**Placebo**	**Vitamin A**
Sample size			539	476	536
SES (n/N)					
	Lower caste		454/538	438/476	482/536
	Land ownership		371/536	373/475	365/536
	Owns livestock		452/538	414/476	463/536
	Owns radio		162/538	133/476	150/536
	House without roof or with a thatch roof		122/513	88/456	144/503
	House without walls or thatch-made walls		463/513	436/456	464/503
	Maternal literacy		106/513	42/456	58/503
	Father is farmer		255/509	260/455	223/500
Asthma prevalence (n/N)					
	Lifetime asthma (self-report)		4/536	2/476	7/534
	Physician diagnosis of asthma		0/536	1/476	1/533
	Mean age in years (SD of means) at the		2.50 (2.38)	0 (0)	2.71 (3.95)
	Current asthma (self-report)		1/536	0/476	4/534
Wheezing prevalence (n/N)					
	Lifetime wheeze		82/531	77/472	81/525
	Wheezing in the past year		29/527	17/471	27/524
	Wheezing attacks in the past year				
		1 – 3	18/527	8/471	15/524
		4 – 12	7/527	5/471	5/524
		12 or more	4/527	4/471	7/524

Wheezing accompanied by shortness of breath in the past year	12/475	7/412	15/471
Disturbed sleep from wheezing in the past			
Less than 1 night a week	7/476	2/411	3/467
More than 1 night a week	10/476	5/411	7/467
Cough and phlegm prevalence (n/N)			
Persistent cough (coughs more than normal)	29/538	15/475	24/536
Chronic cough (3 months of consecutive cough in a 2 year period)	7/535	6/473	6/534
Average number of years (SD) with cough	2.40 (3.01)	2.83 (2.44)	0.71 (1.15)
Persistent phlegm (produces phlegm more than normal)	37/538	15/475	31/534
Chronic phlegm (3 months of consecutive phlegm production in a 2 year period)	12/537	2/474	6/529
Chronic productive cough	3/538	1/475	0/536
Dry cough at night in the past year	20/536	13/475	20/535
Average number of years (SD) with phlegm	2.26 (2.85)	1.46 (1.85)	1.54 (2.48)
Chest-illnesses after colds	121/536	105/469	106/529
Mean number of phlegm episodes (SD) with chest illness	2.67 (2.35)	0.33 (0.58)	0.62 (1.06)

ETABLE 3. Effects of supplementation assignment on spirometric indicators of obstruction in 3075 children adjusted by multiple variables; NNIPS-1 follow-up study, Nepal, 2006 – 2008.

	Supplement assignment after birth		
	Placebo	**Vitamin A**	**GEE p-value**
Sample size for boys			
Number of boys	804	934	
Median (range) number of boys per ward	35.5 (12–76)	40.5 (9–112)	
FEV1**/FVC for boys**			
Average (SD) of FEV1/FVC (%)	85.9 (6.1)	86.1 (5.8)	
Ward means (SD of means) of FEV1/FVC (%)	85.7 (1.4)	86.1 (1.0)	0.56
PEF for boys			
Average (SD) of PEF (L/s)	7.81 (1.69)	7.85 (1.56)	
Ward means (SD of means) of PEF (L/s)	7.67 (0.67)	7.80 (0.33)	0.94

FEF75 for boys				
	Average (SD) of FEF75 (L/s)	1.77 (0.63)	1.80 (0.63)	
	Ward means (SD of means) of FEF75 (L/s)	1.74 (0.19)	1.79 (0.13)	0.77
MMEF for boys				
	Average (SD) of MMEF (L/s)	3.66 (0.96)	3.69 (0.95)	
	Ward means (SD of means) of MMEF (L/s)	3.60 (0.32)	3.67 (0.16)	0.97
Sample size for girls				
	Number of girls	629	708	
	Median (range) number of girls per ward	30 (4–67)	26.5 (6–97)	
FEV1**/FVC for girls**				
	Average (SD) of FEV1/FVC (%)	87.4 (5.6)	87.2 (5.9)	
	Ward means (SD of means) of FEV1/FVC (%)	87.6 (1.3)	87.1 (1.4)	0.55
PEF for girls				
	Average (SD) of PEF (L/s)	5.53 (1.11)	5.61 (1.13)	
	Ward means (SD of means) of PEF (L/s)	5.46 (0.33)	5.48 (0.45)	0.99
FEF75 for girls				
	Average (SD) of FEF75 (L/s)	1.39 (0.49)	1.39 (0.51)	
	Ward means (SD of means) of FEF75 (L/s)	1.37 (0.16)	1.35 (0.17)	0.43
MMEF for girls				
	Average (SD) of MMEF (L/s)	2.93 (0.73)	2.95 (0.75)	
	Ward means (SD of means) of MMEF (L/s)	2.88 (0.26)	2.89 (0.28)	0.71

ETABLE 4. Effects of supplementation assignment on spirometric indicators of obstruction in 1322 children adjusted by multiple variables; NNIPS-2 follow-up study, Nepal, 2006 – 2008.

	Supplement assignment after birth			
	Beta-carotene	**Placebo**	**p-value**	**GEE p-value**
Sample size for boys				
Number of boys	254	202	226	

	Median (range) number of boys per ward	25 (14–44)	22 (9–45)	19 (5–70)	
FEV1**/FVC for boys**					
	Average (SD) of FEV1/FVC	87.5 (7.1)	87.6 (6.1)	87.8 (6.0)	
	Ward means (SD of means) of FEV1/FVC	87.6 (1.3)	87.5 (1.8)	88.1 (1.2)	0.94
PEF for boys					
	Average (SD) of PEF (L/s)	3.66 (0.91)	3.78 (0.82)	3.79 (0.75)	
	Ward means (SD of means) of PEF (L/s)	3.69 (0.19)	3.91 (0.33)	3.86 (0.23)	0.38
FEF75 for boys					
	Average (SD) of FEF75 (L/s)	0.86 (0.34)	0.83 (0.30)	0.89 (0.33)	
	Ward means (SD of means) of FEF75 (L/s)	0.87 (0.07)	0.83 (0.06)	0.89 (0.06)	0.11
MMEF for boys					
	Average (SD) of MMEF (L/s)	1.93 (0.59)	1.92 (0.52)	1.98 (0.53)	
	Ward means (SD of means) of MMEF (L/s)	1.94 (0.13)	1.95 (0.13)	2.01 (0.14)	0.52
Sample size for girls					
	Number of girls	209	217	214	
	Median (range) number of girls per ward	22 (12–47)	26 (7–45)	19 (6–55)	
FEV1**/FVC for girls**					
	Average (SD) of FEV1/FVC (%)	89.1 (6.6)	88.9 (6.8)	89.4 (6.1)	
	Ward means (SD of means) of FEV1/FVC (%)	89.0 (2.2)	88.7 (1.6)	89.4 (2.2)	0.64
PEF for girls					

	Average (SD) of PEF (L/s)	3.45 (0.79)	3.50 (0.88)	3.49 (0.74)	
	Ward means (SD of means) of PEF (L/s)	3.44 (0.30)	3.61 (0.47)	3.47 (0.19)	0.78
FEF75 for girls					
	Average (SD) of FEF75 (L/s)	0.85 (0.34)	0.81 (0.32)	0.85 (0.32)	
	Ward means (SD of means) of FEF75 (L/s)	0.84 (0.12)	0.84 (0.13)	0.86 (0.12)	0.19
MMEF for girls					
	Average (SD) of MMEF (L/s)	1.90 (0.55)	1.86 (0.57)	1.93 (0.51)	
	Ward means (SD of means) of MMEF (L/s)	1.89 (0.21)	1.90 (0.23)	1.93 (0.16)	0.20