Calculation of exposure metrics at the two timepoints

The adjustment approach was as follows: if a specific participant's first trimester occurred from January to March, for example, and the average concentration of NO_x measurements over this period at the reference site was 10 µg/m^3, while the annual average at the reference site was 5 µg/m^3, a ratio of 2:1 for the first-trimester average to annual average was established for that participant. The annual average ambient concentration calculated for that participant's address by the hybrid model could then be doubled as an estimate of first-trimester average exposure. A similar adjustment was made to estimate average exposure during the month of birth for each participant.

EQUATION 1:

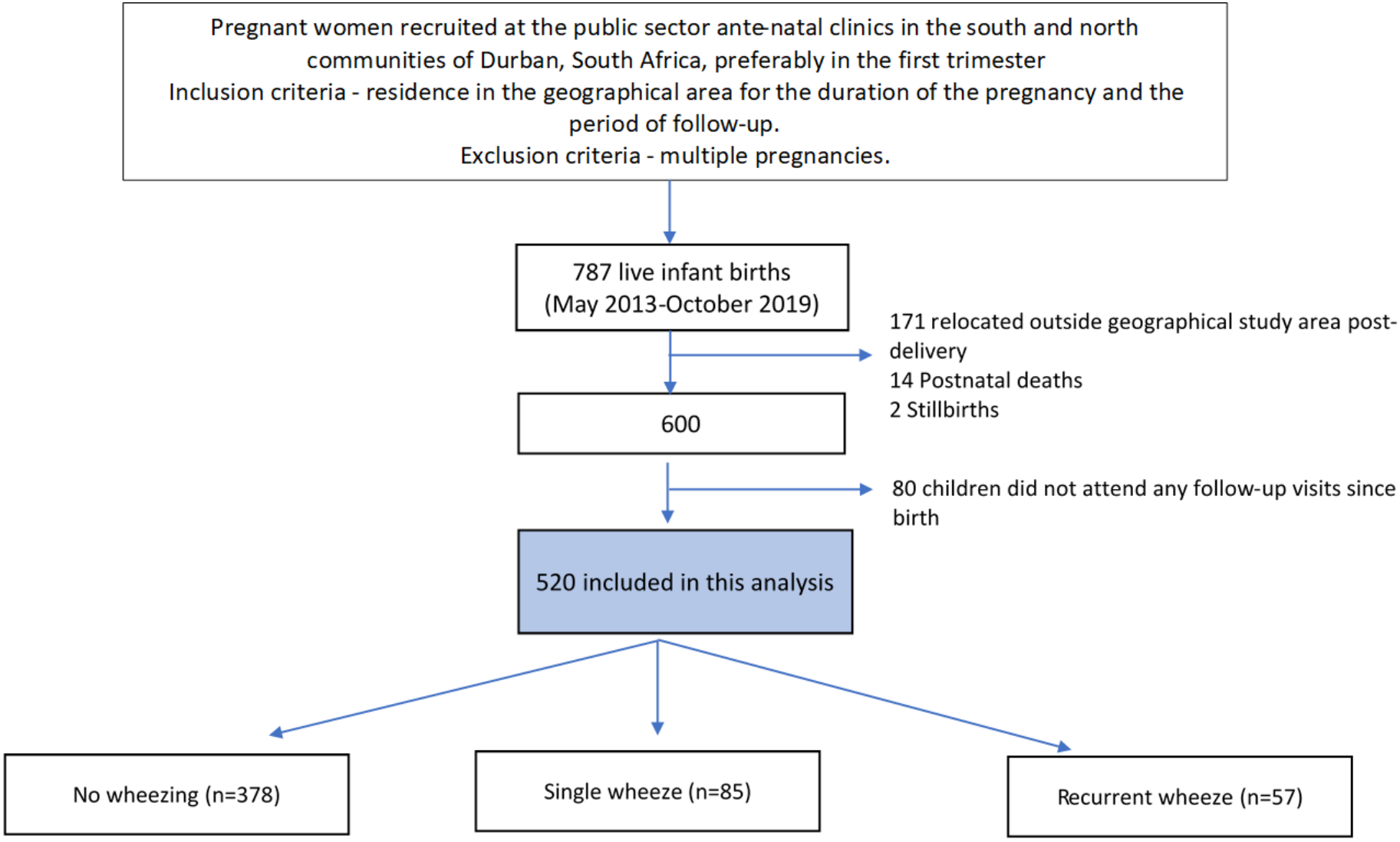
$$\frac{1st\ trimester\ avg.conc\ at\ participant's\ address}{Annual\ avg.conc.at\ participant's address} = \frac{1st\ trimester\ avg.conc\ at\ reference\ site}{Annual\ avg.conc.at\ reference\ site}$$

$$Therefore, 1st\ trimester\ avg\ conc.at\ participant's\ address = \frac{1st\ \ trimester\ avg.conc.at\ ref.site \times annual\ avg.conc.at\ participant's\ address}{Annual\ avg.conc.at\ ref.site}$$

EQUATION 2:

$$\frac{Birth\ month\ avg.conc.at\ participant's\ address}{Annual\ avg.conc.at\ participant's address} = \frac{Birth\ month\ avg.conc.at\ reference\ site}{Annual\ avg.conc.at\ reference\ site}$$

$$Therefore, birth\ month\ avg\ conc.at\ participant's\ address = \frac{Birth\ month\ avg.conc.at\ ref.site \times annual\ avg.conc.at\ participant's\ address}{Annual\ avg.conc.at\ ref.site}$$



Supplementary Figure 1. Recruitment into MACE Cohort and Sample selection for wheeze outcome analysis

Table S1: Demographics differences between participants included in this analysis (n=520) and those not included (n=80)* within the MACE birth cohort

Characteristics	Study Participants (n=520) %	Excluded Cohort Members (n=80) %
Mother education		
< Secondary school education	26.0	26.2
Matric (high school graduate)	57.7	47.5
College/ Technikon/ University	16.5	26.2
Mother's yearly gross income (US$)		
None	49.2	45.0
<$ 650	19.2	16.2
$ 650-$2000	18.1	17.5
>$2000	10.8	11.2
Refused to answer	2.7	10.0
Housing type		
Formal	83.5	91.2
Informal	16.5	8.8
Maternal age (mean (SD))	26.2 (6.0)	26.5 (5.5)
Infant sex (male)	53.6	47.5
Birthweight (mean (SD))	3136.9 (545.6)	3168.9 (552.7)

These participants did not attend any clinical assessments post delivery

There were no statistically significant differences between the included and excluded groups

Table S2: Comparison of time to single and recurrent wheezing for risk factors of child wheezing

Variables	Single wheeze (n=85)			Recurrent wheeze (n=57)		
	Mean time (months)	95% CI	Log-Rank P-value	Mean time (months)	95% CI	Log-Rank P-value
Child gender						
Male	37.8	35.7-39.9	0.169	45.6	44.5-46.7	0.487
Female	39.6	37.5-41.7		46.1	45.0-47.2	
Antenatal ETS						
Yes	37.1	35.0-39.3	0.017*	45.4	44.3-46.5	0.035*
No	40.5	38.4-42.5		46.5	45.5-47.5	
Maternal alcohol consumption						
Yes	35.0	29.4-40.6	0.171	43.9	40.6-47.3	0.229
No	39.1	37.5-40.6		46.0	45.2-46.8	
Family history of asthma						
Yes	36.1	32.2-40.0	0.210	47.2	46.1-48.3	0.250
No	39.1	37.5-40.7		45.6	44.6-46.5	
Energy sources of cooking						
Biomass or fossil fuels	37.8	29.1-46.5	0.928	42.9	36.4-49.5	0.031*
Electrical	38.6	37.1-40.2		45.9	45.2-46.7	

Key: (*) The association is significant at α=0.05

Table S3a: Cox-proportional hazards model for risk factors that contribute to single and recurrent episodes of childhood wheezing with a unit change in IQR of pollutants.

Variables	Single Wheezing		Recurrent Wheezing	
	Adjusted HR (95%CI)	P-value	Adjusted HR (95%CI)	P-value
Child gender				
Male	1.15 (0.80, 1.66)	0.447		
Female	1			
Antenatal ETS				
Yes	1.56 (1.05, 2.31)	0.025	2.09 (0.93, 4.71)	0.073
No	1			
Maternal alcohol consumption				
Yes	1.31 (0.73, 2.32)	0.364	1.42 (0.54, 3.77)	0.476
No	1			
Family history of asthma				
Yes	1.33 (0.86, 2.06)	0.234	0.60 (0.21, 1.74)	0.350
No	1			
Energy sources of cooking				
Biomass or fossil fuels	0.96 (0.35, 2.63)	0.945	2.55 (0.76, 8.55)	0.128
Electricity	1			
Birth Month NO_2[#]	1.14 (0.83, 1.58)	0.409	1.57 (0.85, 2.90)	0.148
First Trimester NO_2[#]	0.82 (0.62, 1.08)	0.156	0.83 (0.49, 1.41)	0.493
Birth Month $PM_{2.5}$[#]	1.13 (0.84, 1.53)	0.417	1.41 (0.79, 2.50)	0.239
First Trimester $PM_{2.5}$[#]	0.79 (0.58,1.07)	0.131	0.71 (0.40, 1.23)	0.250

Table 3b: Comparison of adjusted HR estimates between (1ug/m^3) increase and one IQR increase in pollutant level (per 1ug/m^3 extracted from the original Table 3)

	Single Wheezing (n=85)		Recurrent Wheezing (n=57)	
	Per 1ug/m^3 increase	Per IQR increase	Per 1ug/m^3 increase	Per IQR increase
Birth Month NO_2[#]	1.02 (0.99, 1.04)	1.14 (0.83, 1.58)	1.03 (1.00, 1.08)	1.57 (0.85, 2.90)
First Trimester NO_2[#]	0.97 (0.94, 1.00)	0.82 (0.62, 1.08)	0.95 (0.91, 1.01)	0.83 (0.49, 1.41)
Birth Month $PM_{2.5}$[#]	1.02 (0.98, 1.05)	1.13 (0.84, 1.53)	1.04 (0.97, 1.10)	1.41 (0.79, 2.50)
First Trimester $PM_{2.5}$[#]	0.96 (0.92, 1.01)	0.79 (0.58,1.07)	0.95 (0.87, 1.03)	0.71 (0.40, 1.23)

Because of concerns of masking effects due to our metrics used in the regression model, we ran a sensitivity analysis using the interquartile range (IQR). The estimates from this analysis is shown in the Table S3a and S3b: S3a shows the effects across all covariates, and S3b shows a comparison of the pollutant-related effects from the original metric (change in effect with each 1ug increase in pollutant) and the IQR estimates. As can be seen, the adjusted HR estimates for the exposure variables varied only slightly, but did not change in statistical significance. Because of this, we retained the 1ug metric rather than the IQR in the main text.

Child clinical questionnaire

Mother and Child in the Environment (MACE) **Child follow-up**	
Date: **:___/___/____** **MID:** _____ **CID:** _____ **Day Month Year**	
1. Date of Birth:	____/____/_____ day month year
2. Chronological age	_____months
3. Baby's birth weight	_____grams
4. Baby's birth Length	_____cm ☐9 Unknown
5. Baby's birth Head circumference	_____cm ☐9 Unknown
6. Baby's current weight	_____kg
7. Baby's current height	_____cm
8. Baby's current OFC	_____cm
9. BABY'S CURRENT MUAC	_____cm ☐9 Unknown
A) Classify MUAC	☐1 Normal ☐2 Moderate wasting ☐3 Severe wasting

10. Is the baby's Immunization up to date? [INTERVIEWER TO CONFIRM WITH RTHC]	☐1 Yes **(If Yes,Skip to Q 12)** ☐2 No

11. If No, why was your child not immunised?	☐1 Child unwell ☐2 Mother missed visit ☐3 Clinic had no stock ☐4 Other_____
Nutrition: (Z score)	
12. Weight for age	☐1 Overweight ☐2 Normal ☐3 Underweight for age ☐4 Severely UWFA
13. Height for age	☐1 Very Tall ☐2 Normal ☐3 Stunted ☐4 Severely Stunted
14. Weight for height	☐1 Obese ☐2 Overweight ☐3 Normal ☐4 Wasted (MAM) ☐5 Severely wasted (SAM)
15. Classify Nutrition	☐1 Normal ☐2 Severe acute malnutrition ☐3 Moderate malnutrition ☐4 Mild malnutrition ☐5 Severe wasting ☐6 Moderate wasting ☐7 Stunted
16. OFC	☐1 Normal **(If Normal,Skip to Q 17)** ☐2 Abnormal
a) If Abnormal OFC	☐1 Microcephaly ☐2 Macrocephaly
Development-	
17. Can he/she walk up and down the stairs with two feet per step	☐1 Yes ☐2 No
18. Can the child run?	☐1 Yes ☐2 No
19. Can the child ride a tricycle?	☐1 Yes ☐2 No
20. Can he/she recognise colours	☐1 Yes ☐2 No
21. Does he have hand preference?	☐1 Yes ☐2 No

22. Can he make full sentences?	☐$_1$ Yes ☐$_2$ No
23. Does he know at least 50 words?	☐$_1$ Yes ☐$_2$ No
24. Can the baby feed himself/herself?	☐$_1$ Yes ☐$_2$ No
25. Is the baby's development normal?	☐$_1$ Yes **(If Yes,Skip to Q 26)** ☐$_2$ No
a) If No, Indicate the abnormality	_____ _____ _____
26. What is the developmental age	_____(months)
27. **Did the baby have any respiratory problems from 1- 2years of age ?**	☐$_1$ Yes ☐$_2$ No **(If No,Skip to Q 29)** ☐$_3$ Does not remember **(Skip to Q 29)**
28. How many episodes did the child have?	_____
Episode 1: a) When was the 1st episode?	_____DATE OR _____MONTHS AGO
b) How long did it last?	_____DAYS ☐$_1$ Does not recall
c) Did you seek medical attention?	☐$_1$ Clinic ☐$_2$ Hospital ☐$_3$ GP ☐$_4$ Self-medicated
d) What treatment did the child receive?	_____ _____
Episode 2: a) When was the 2nd episode?	_____DATE OR _____WEEKS AGO
b) How long did it last?	_____DAYS ☐$_1$ Does not recall
c) Did you seek medical attention?	☐$_1$ Clinic ☐$_2$ Hospital ☐$_3$ GP ☐$_4$ Self-medicated
d) What treatment did the child receive?	_____

Episode 3: a) When was the 3rd episode?	_____DATE OR _____WEEKS AGO
b) How long did it last?	_____DAYS ☐1 Does not recall
c) Did you seek medical attention?	☐1 Clinic ☐2 Hospital ☐3 GP ☐4 Self-medicated
d) What treatment did the child receive?	_____ _____
29. Does your baby currently have any of the following?	☐1 Cough ☐2 Blocked nose ☐3 Fever ☐4 None of the above **(Skip to Q31)**
30. Did you seek medical attention?	☐1 Clinic ☐2 Hospital ☐3 GP ☐4 Self-medicated
31. What treatment did the child receive?	_____ _____
31. **Did your child ever have a wheeze in the last one year . (whistling sound from the chest)?**	☐1 Yes ☐2 No **(If No,Skip to Q 33)** ☐3 Does not remember **(Skip to Q33)**
32. How many episodes did the child have?	_____
Episode 1: a) When was the 1st episode?	_____DATE OR _____WEEKS AGO
b) How long did it last?	_____DAYS ☐1 Does not recall
c) Did you seek medical attention?	☐1 Clinic ☐2 Hospital ☐3 GP ☐4 Self-medicated
d) What treatment did the child receive?	_____ _____

Episode 2: a) When was the 2nd episode?	_____DATE OR _____WEEKS AGO
b) How long did it last?	_____DAYS ☐1 Does not recall
c) Did you seek medical attention?	☐1 Clinic ☐2 Hospital ☐3 GP ☐4 Self-medicated
d) What treatment did the child receive?	_____ _____
Episode 3: a) When was the 3rd episode?	_____DATE OR _____WEEKS AGO
b) How long did it last?	_____DAYS ☐1 Does not recall
c) Did you seek medical attention?	☐1 Clinic ☐2 Hospital ☐3 GP ☐4 Self-medicated
d) What treatment did the child receive?	_____ _____
33. Does the baby have feeding difficulty	☐1 Yes ☐2 No
34. Is the infant is HIV infected ?	☐1 Yes ☐2 No **(If No,Skip to Q 36)**
35. Is the child on antiretroviral therapy?	☐1 Yes ☐2 No
a) If yes- what treatment is the baby on?	_____ _____
b) When was the treatment initiated?	
36. Is there a family history of TB?	☐1 Yes ☐2 No **(If No,Skip to Q 37)**
a) Who has TB?	☐1 Child's mum ☐2 Child's dad ☐3 Child's siblings
b) Is the above person on medication?	☐1 Yes ☐2 No **(If No,Skip to Q 37)**

c) What medication is the person taking?	_____ _____ _____ _____
Clinical assessment:	
37. Temperature	_____
38. Respiratory rate (bpm)	_____
39. Respiratory System	_____ _____ _____
40. Does the child have RDS today?	☐1 Yes ☐2 No
41. Does the child have an acute respiratory infection the currently?	☐1 Yes ☐2 No **(If No,Skip to Q 42)**
a) Indicate type of infection	☐1 Severe pneumonia ☐2 Pneumonia ☐3 Cough or cold ☐4 Recurrent wheeze ☐5 Wheeze first episode
b) Did the child receive any of the following:	☐1 Anitibiotics _____ ☐2 Bronchodilators _____ ☐3 Inhaled bronchodilators _____ ☐4 Inhaled steroids _____
c) Does the child need admission?	☐1 Yes ☐2 No **(If No,Skip to Q 42)**
d) If yes, please explain	_____ _____

42. ABDOMEN-	
a) Hepatomegaly	☐$_1$ Normal ☐$_2$ Abnormal
b) Splenomegaly	☐$_1$ Normal ☐$_2$ Abnormal
43. Central nervous System-	
a) Tone	☐$_1$ Normal ☐$_2$ Increased ☐$_3$ Decreased
b) Reflexes	☐$_1$ Normal ☐$_2$ Brisk ☐$_3$ Absent
c) Power	☐$_1$ Normal **(If Normal,Skip to (d))** ☐$_2$ Abnormal
a) If abnormal- grade the power	_____
d) Miscellaneous problems	_____ _____ _____
e) Meds received	_____ _____ _____ _____ _____ _____

Mother and Child in the Environment (MACE) – Mother Questionnaire

1. Date:____/____/____ **2. Study Identification No.** ☐☐☐ - ☐☐☐ - ☐☐☐

Day Month Year

3. Name of respondent:	_____ First _____ Middle _____ Surname
4. Phone numbers:	**home: _____** **work: _____** **cell: _____** **other: _____**
5. What is your physical address?	_____ House No. _____ Road/Street _____ City _____ Postal Code
6. How old are you?	_____years
7. What is your date of birth?	_____/_____/_____ day month year ☐9 Refused

8. What is your marital status?	☐$_1$ Married ☐$_2$ Living together ☐$_3$ Single ☐$_4$ Divorced ☐$_5$ Separated ☐$_6$ Widow ☐$_7$ Other _____
9. What is the highest grade or year of school you completed? **[READ CHOICES – select only one]**	☐$_1$ Never attended school or only pre-school ☐$_2$ Class 1 – Std 6 (Grades 1 through 8) ☐$_3$ Std 7 – Std 9 (Grades 9 through 11- Some high school) ☐$_4$ Std 10 / Matric (Grade 12 - High school graduate) ☐$_5$ College / technikon / university (1 year to 3 years - Some college or technical school) ☐$_6$ 4 years or more tertiary education (masters, doctorate, medical doctor) ☐$_7$ Other education ☐$_9$ Refused
10. What is the highest grade or year of school your baby's father completed? [READ CHOICES]	☐$_1$ Never attended school or only pre-school ☐$_2$ Class 1 – Std 6 (Grades 1 through 8) ☐$_3$ Std 7 – Std 9 (Grades 9 through 11- Some high school) ☐$_4$ Std 10 / Matric (Grade 12 - High school graduate) ☐$_5$ College / technikon / university (1 year to 3 years - Some college or technical school) ☐$_6$ 4 years or more tertiary education (masters, doctorate, medical doctor) ☐$_7$ Other education ☐$_9$ Refused
11. Interviewer's Name:	_____

12.Interview time started:	Time: _ _:_ _ am/pm

[INTRODUCTION: INTERVIEWER READS TO RESPONDENT]

The purpose of this questionnaire is to collect information about your pregnancy and reproductive health . If there is a question you do not want to answer, please let me know and we can skip it. All of your responses are confidential and will not shown to anyone outside the study team without your written consent. If you wish to stop the interview at anytime, please advise me. We can continue at a later time at your convenience

A. HOUSEHOLD CONDITIONS	
13. With whom do you live? *(Fill in one or several boxes.)*	☐1 Spouse ☐2 Partner ☐3 Parents ☐4 Parents-in-law ☐5 Children ☐6 No one ☐88 Others, describe _____
14. How many people including you live in your home?	☐1 Number of people over 18 years ☐2 Number of people between 12 and 18 years ☐3 Number of people between 6 and 11 years ☐4 Number of people under 6 years
15. Usual language spoken at home:	☐1 English ☐2 Zulu ☐3 Xhosa

	☐$_4$ Afrikaans ☐$_{88}$ Other (Specify:_____)
16. How many of your children are at nursery school?	_____ no. of children
17. What is your yearly gross income? (*Include child support, unemployment benefits and other allowances.)*	☐$_0$ No income ☐$_1$ Less than R1 000 ☐$_2$ R1 001-2 000 ☐$_3$ R2 001-5 000 ☐$_4$ R5 001-10 000 ☐$_5$ R10 001–20 000 ☐$_6$ R20 001–30 000 ☐$_7$ R30 001–50 000 ☐$_8$ R50 001–75 000 ☐$_9$ R75 001–100 000 ☐$_{10}$ R100 000-150 000 ☐$_{11}$ R150 001 and above
18. What is the baby's father's yearly gross income? (*Include child support, unemployment benefits and other allowances.)*	☐$_0$ No income ☐$_1$ Less than R1 000 ☐$_2$ R1 001-2 000 ☐$_3$ R2 001-5 000 ☐$_4$ R5 001-10 000 ☐$_5$ R10 001–20 000 ☐$_6$ R20 001–30 000 ☐$_7$ R30 001–50 000 ☐$_8$ R50 001–75 000 ☐$_9$ R75 001–100 000 ☐$_{10}$ R100 000-150 000 ☐$_{11}$ R150 001 and above ☐$_{99}$ Don't know
19. Is it possible for your household to manage financially without your income?	☐$_0$ not applicable, no income received ☐$_1$ No ☐$_2$ Yes, but with difficulty

	☐3 Yes, without difficulty
20. What type of housing do you live in?	☐1 Detached house ☐2 Farm ☐3 Semidetached ☐4 Flat ☐5 Maisonette ☐6 Terraced flat ☐7 Apartment building ☐8 Townhouse ☐88 Other _____
21. Has there been water damage, visible signs of fungus/mildew or a smell of mildew in your home in the past 3 months? *(Fill in one or several boxes.)*	☐1 No ☐2 Yes, water damage ☐3 Yes, signs of fungus and mould ☐4 Yes, a smell of mildew
22. How many times have you moved in the last 3 years?	_____times
23. What year was this house/structure originally built?	_____ year ☐99 don't know
IF RESPONDENT IS UNSURE ASK: 24. Would you say it was built:	☐1 before 1960 ☐2 between 1960 and 1975 ☐3 after 1975
25. How many rooms are there in your home? (counting the kitchen, but not the bathroom or toilet)	_____rooms
26. How long have you lived at this address?	_____ years ☐1 less than 1 year
27. Is your home drinking water from the tap or from a river or dam?	☐1 tap ☐2 river or dam ☐3 well ☐88 other, please specify: _____
28. Do any pets live in this home?	☐1 Yes ☐2 No **[If no, skip to Q31]**
29. What kind of pets live here?	

(a). a dog?	☐1 Yes ☐2 No
(b). a cat?	☐1 Yes ☐2 No
(c). a bird?	☐1 Yes ☐2 No
(d). any other pet(s)	☐1 Yes ☐2 No ☐88 please specify: _____
30. During the past 12 months was a furnace that forces out hot air used to heat this house?	☐1 Yes ☐2 No **[If no, skip to Q30]** ☐99 don't know
(a). Was this hot air furnace fueled by	☐0 not applicable – no furnace ☐1 oil ☐2 gas ☐3 electricity ☐88 other, please specify: _____ ☐99 don't know
31. During the past 12 months was a room heater used to heat one or more rooms in this house?	☐1 Yes ☐2 No ☐99 don't know
(a). Was this heater fueled by	☐0 not applicable – no furnace ☐1 paraffin ☐2 gas ☐3 electricity ☐4 wood ☐5 coal

	☐88 other, please specify: _____ ☐88 don't know
32. During the past 12 months was one or more wood stoves used in this house?	☐1 Yes ☐2 No ☐99 Don't know
33. During the past 12 months was a fireplace used to heat the rooms in this house?	☐1 Yes ☐2 No ☐99 Don't know
34. During the past 12 months was the stove or oven ever used to heat this house?	☐1 Yes ☐2 No ☐99 Don't know
35. Is a stove or oven used for cooking in this house?	☐1 Yes ☐2 No ☐99 Don't know
(a). What is the primary source of heat for this stove or oven?	☐1 paraffin ☐2 gas ☐3 electricity ☐4 wood ☐5 coal ☐88 other, please specify: _____ ☐99 don't know

B. FAMILY SMOKING CHARACTERISTICS

36. Does anyone who lives here smoke cigarettes in the home?	☐1 Yes ☐2 No **[If no, skip to Q37]**

If yes, for each member of the household who smokes, please complete the following table:

First name	Surname	Cigarettes smoked per day in the home	Number of years smoking
a.i	**a.ii**	**a.iii**	**a.iv**

b.	**b.**	**b.**	**b.**
c.	**c.**	**c.**	**c.**
d.	**d.**	**d.**	**d.**
e.	**e.**	**e.**	**e.**
f.	**f.**	**f.**	**f.**
g.	**g.**	**g.**	**g.**

C. MENSTRUAL HISTORY

37. How old were you when you had your first menstrual period?	_____ years age
38. How many days between the first day in your menstrual period and the first day in your next menstrual period?	_____ days
39. Were your periods regular the year before you became pregnant?	☐1 Yes ☐2 No
40. During the last year before you became pregnant, did you lose your period for more than three months without being pregnant?	☐1 Yes, due to another pregnancy ☐2 Yes, due to other reasons ☐3 No
41. Date of first day of last menstrual period	____/_____/20____ Day/month/year
42. Did your last menstrual period come at the expected time	☐1 Yes ☐2 No
43. Are you certain about the date of first day of last menstrual period?	☐1 Certain ☐2 Uncertain
44. Describe the duration, amount of bleeding and period pains of your last period	
(a). Was the duration	☐1 Usual ☐2 More than usual ☐3 Less than usual

(b). Was the bleeding	☐1 Usual ☐2 More than usual ☐3 Less than usual
(c). Was the pain	☐1 Usual ☐2 More than usual ☐3 Less than usual
D. CONTRACEPTION AND REPRODUCTIVE HISTORY	
45. Have you/your partner at any time during the last year used the following methods to avoid becoming pregnant? *(Fill in all that apply.)*	☐1 Condom ☐2 Diaphragm ☐3 IUD ☐4 Hormone IUD ☐5 Hormone injection ☐6 Mini pill ☐7 Pill ☐8 Spermicides (foam, suppositories, cream) ☐9 Safe period ☐10 Withdrawal ☐11 No such methods ☐88 Other
46. If you have used the pill/mini-pill, how long have you used them?	*Pill* ☐0 never used ☐1 Less than one year ☐2 1-3 years ☐3 4-6 years ☐4 7-9 years ☐5 10 years or more *Mini-pill* ☐00 never used ☐6 Less than one year ☐7 1-3 years ☐8 4-6 years ☐9 7-9 years ☐10 10 years or more **[If Pill or Mini pill never used, skip to Q50]**
47. If you have used the pill/mini-pill, how old were you when you first used it?	_____years old
48. Were you taking the pill/mini-pill during the last 4 months before this pregnancy?	☐1 Yes ☐2 No
49. If yes, how long before your last menstrual period did you stop taking the pill/mini-pill?	_____ weeks
50. Was this pregnancy planned?	☐1 Yes

	☐$_2$ No
(a). If yes, how many months did you have regular intercourse without contraception before you became pregnant?	☐$_1$ Less than I month ☐$_2$ 1-2 months ☐$_3$ 3 months or more ☐$_4$ Number of months if more than 3 _____
52. Did you become pregnant even though you or your partner used contraceptives	☐$_1$ Yes ☐$_2$ No **[If no, skip to Q55]**
53. If yes, which type of contraceptives were used? *(Fill in all that apply.)*	☐$_1$ Condom ☐$_2$ Diaphragm ☐$_3$ IUD ☐$_4$ Hormone IUD ☐$_5$ Hormone injection ☐$_6$ Mini pill ☐$_7$ Pill ☐$_7$ Spermicides (foam, suppositories, cream) ☐$_9$ Safe period ☐$_{10}$ Withdrawal ☐$_{88}$ Other _____
54. If you became pregnant while using an IUD, has it now been removed?	☐$_1$ Yes ☐$_2$ No
55. How long have you and the baby's father had a sexual relationship?	_____months or _____years
56. How often did you have sexual intercourse during the four weeks before you became pregnant ?	☐$_1$ Every day ☐$_2$ 5-6 times a week ☐$_3$ 3-4 times a week ☐$_4$ 1-2 times a week ☐$_5$ 1-2 times every two weeks ☐$_6$ Less than 1-2 times every 2 weeks ☐$_7$ Never
57. Have you ever been treated for infertility?	☐$_1$ Yes ☐$_2$ No **[If no, skip to Q59]**
58. If yes, was it in connection with this pregnancy or an earlier pregnancy and what type of treatment did you have?	☐$_1$ Fallopian tube surgery ☐$_2$ Other surgery ☐$_3$ Medication for endometriosis ☐$_4$ Hormone treatment ☐$_5$ Insemination (injection of sperm) ☐$_6$ Test-tube method ☐$_{88}$ Other
59. Have you been given information about amniocentesis?	☐$_1$ Yes ☐$_2$ No
60. What was your blood pressure at your first antenatal visit? *(Check medical card.)*	☐$_1$ Highest ☐$_2$ Lowest
61. What did you weigh at the time you became pregnant and what do you weigh now (in kilograms)?	When I became pregnant _____ kg Now _____ kg
62. How tall are you?	_____cm
63. How tall is the baby's father	_____cm
64. How much does the baby's father weigh?	_____kg

E. PREVIOUS PREGNANCIES	
65. Have you been pregnant before? (Include all pregnancies that ended in abortion, miscarriage or stillbirth)	☐1 Yes ☐2 No **[If no, skip to Q67]**
If yes, fill in for all earlier pregnancies. [Include all pregnancies that ended in abortion, miscarriage or stillbirth as well as ectopic pregnancies].	
66. Pregnancy No. 1	
(a). Year of pregnancy _____	_____ year
(b). Pregnancy outcome	☐1 Live infant born ☐2 Spontaneous abortion ☐3 Termination of pregnancy ☐4 Ectopic pregnancy
(c). Week of pregnancy for abortion/still birth	_____ weeks
(d). No. of months breast feeding	_____ months
(e). Weight gain during pregnancy	_____ kg
(f). Smoked during pregnancy	☐1 Yes ☐2 No
F. ILLNESSES AND HEALTH PROBLEMS DURING THIS PREGNANCY	
FOR PURPOSES OF UPLOADING A SHORTENED DOCUMENT, QUESTIONS HAVE BEEN DELETED FROM THIS SECTION	
G. PAST AND PRESENT ILLNESSES AND HEALTH PROBLEMS	
Do you have or have you had any of the following illnesses or health problems? If you have taken medication (tablets, mixtures, suppositories, inhalers, creams, etc.) in conjunction with the illness or health problem give the name(s) of the medication(s) and when you took them.	
FOR PURPOSES OF UPLOADING A SHORTENEDD DOCUMENT, QUESTIONS HAVE BEEN DELETED FROM THIS SECTION	
HABITS	
67. Did your mother smoke when she was pregnant with you?	☐1 Yes ☐2 No Don't know
68. Are you exposed to passive smoking at home?	☐1 Yes ☐2 No
69. If yes, how many hours a day are you exposed to passive smoking?	_____ hours a day

70. Are you exposed to passive smoking at work?	☐1 Yes ☐2 No
71. If yes, how many hours a day are you exposed to passive smoking?	_____hours a day
72. Did the baby's father smoke before you became pregnant?	☐1 Yes ☐2 No
73. Does he smoke now?	☐1 Yes ☐2 No
74. Have you ever smoked?	☐1 Yes ☐2 No (proceed question 104)
75. Do you smoke now (after you became pregnant)?	☐1 No ☐2 Sometimes ☐3 Daily
(a). If yes, how many	_____ cigarettes per week _____ cigarettes per day
76. Did you smoke during the last 3 months before you became pregnant this time?	☐1 No ☐2 Sometimes ☐3 Daily
(a). If yes, how many	_____ cigarettes per week _____ cigarettes per day
77. How old were you when you started to smoke on a daily basis?	_____ years
78. Have you stopped smoking completely?	☐1 Yes ☐2 No
79. If yes, how old were you when you stopped smoking?	_____years
80. If you stopped smoking after you became pregnant, in which week of pregnancy did you stop?	_____ week of pregnancy
For each of the following fluids, indicate whether you consumed them **before this pregnancy** and the amount (number of cups/glasses) per day (1 mug = 2 cups, 1 small plastic bottle (0.5 litre) = 4 cups, 1 large plastic bottle (1.5 litres) = 12 cups)	
81. Filter coffee (caffienated)	☐1 Yes ☐2 No
(a). If yes, number of cups per day (see conversion above)	_____ cups
82. Instant coffee (caffienated)	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
83. Filter coffee (decaffienated)	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
84. Instant coffee (decaffienated)	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
85. Tea	☐1 Yes

	☐2 No
(a). If yes, number of cups per day	_____ cups
86. Herbal tea	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
87. Fizzy drinks (Coke, Sprite, etc)	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
88. Diet fizzy drinks	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
89. Tap water	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
90. Bottled water	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
91. Pure fruit juices (100%)	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
92. Fruit juice blends	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
93. Fruit juice concentrate	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
94. Milk	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
95. Yogurt, all types	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
96. Yogurt with active Lactobacillus, all types	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
97. Other sour milk	☐1 Yes ☐2 No
(a). If yes, number of cups per day	_____ cups
98. Other _____	☐1 Yes ☐2 No

(a). If yes, number of cups per day	_____ cups
99. Have you ever consumed alcohol?	☐$_1$ Yes ☐$_2$ No **[If no, skip all]**
Alcohol units are used to compare the different types of alcoholic beverages. 1 alcohol unit (= 1.5 cl. pure alcohol) is equivalent to: 1 bottle/can energy drink or cider 1 glass (1/3 liter) of beer 1 wine glass red or white wine 1 wine glass sherry or other fortified wine 1 snaps glass spirits or liqueur	
100. How often did you consume alcohol in the 3 months before you became pregnant?	☐$_1$ Approximately 6-7 time a week ☐$_2$ Approximately 4-5 times a week ☐$_3$ approximately 2-3 times a week ☐$_4$ approximately once a week ☐$_5$ approximately 1-3 times a month ☐$_6$ less than once a month ☐$_7$ Never
101. How often do you consume alcohol during this pregnancy?	☐$_1$ Approximately 6-7 time a week ☐$_2$ Approximately 4-5 times a week ☐$_3$ approximately 2-3 times a week ☐$_4$ approximately once a week ☐$_5$ approximately 1-3 times a month ☐$_6$ less than once a month ☐$_7$ Never
102. What type of alcohol do you usually drink? *(Fill in one or several boxes.)*	☐$_1$ Light beer ☐$_2$ Beer ☐$_3$ Red wine ☐$_4$ White wine ☐$_5$ Low alcohol sodas ☐$_6$ Fortified wines (*sherry, port wine, Madeira)*/ ☐$_7$ Spirits (*vodka, gin, snaps, cognac, whisky, liqueur)*
103. Did you drink 5 units or more at least once during the last 3 months before this pregnancy?	☐$_1$ Several times per week ☐$_2$ Once a week ☐$_3$ 1-3 times a month ☐$_4$ Less than once a month ☐$_5$ Never
104. Did you drink 5 units or more at least once during this pregnancy?	☐$_1$ Several times per week ☐$_2$ Once a week ☐$_3$ 1-3 times a month ☐$_4$ Less than once a month ☐$_5$ Never
105. How many units of alcohol did you usually drink when you consume alcohol in the last 3 months before pregnancy?	☐$_1$ 10 or more ☐$_2$ 7-9 ☐$_3$ 5-6 ☐$_4$ 3-4 ☐$_4$ 1-2 ☐$_5$ Less that 1

106. How many units of alcohol do you usually drink when you consume alcohol during this pregnancy?	☐$_1$ 10 or more ☐$_2$ 7-9 ☐$_3$ 5-6 ☐$_4$ 3-4 ☐$_4$ 1-2 ☐$_5$ Less that 1