

Appendix 1 (as supplied by the authors): Supplemental tables

Supplemental Table S1. Table of available RTI preventative vaccines offered for children in each jurisdiction

Vaccine/ intervention	Year of introduction	Description of programme (How many doses and when)	Eligibility	Uptake during study period (if known)
Pertussis vaccine	<ul style="list-style-type: none"> England/ Scotland: whole-cell in 1956¹, acellular in 2004 Ontario: Whole-cell in 1943, acellular in 1997-98² 	<ul style="list-style-type: none"> England/ Scotland: ages 2,3,4 months and booster at age 3 years 4 months in combination with diphtheria, tetanus and polio Ontario: ages 2, 4, 6 and 18 months 	<ul style="list-style-type: none"> England/ Scotland: all children 2 months to 10 years of age Ontario: all children 6 weeks to 5 years of age³ 	<ul style="list-style-type: none"> England/ Scotland, since 2010: 95% or higher by 2 years of age Ontario, 2013: by 2 years of age (≥ 4 doses) 79.7% (75.1, 83.6); by 5 years of age (≥ 5 doses): 69.8 % (65.2, 74.0)⁴
HiB vaccine	<ul style="list-style-type: none"> England/ Scotland: 1992⁵ Ontario: 1986; conjugate vaccines in 1991/92² 	<ul style="list-style-type: none"> England/ Scotland: three doses under age 1 year with one-month intervals and a fourth booster dose Ontario: given at 2, 4, 6 and 18 months. 	<ul style="list-style-type: none"> England/ Scotland: all children <10 years of age Ontario: all children 6 weeks to 4 years of age and ≥ 5 years for high-risk individuals (with valid health card)² 	<ul style="list-style-type: none"> England/ Scotland, 1998: 95% by 2 years of age Ontario, 2013: by 2 years of age (≥ 4 doses) 75.9% (71.3, 79.9); by 5 years of age (≥ 5 doses) 83.4% (79.3, 86.8)³
Influenza vaccine	<ul style="list-style-type: none"> England/ Scotland: 2013⁶ Ontario: freely available since 2000² 	<ul style="list-style-type: none"> England: one dose, but children aged 6 months to 9 years in clinical high-risk groups that have not received influenza vaccine previously should be offered a 2nd dose. Ontario: Recommended annually, in the Fall; children 6 months to 8 years of age who have not previously received a dose of influenza vaccine require 2 doses given ≥ 4 weeks apart; else 1 dose received per season.² 	<ul style="list-style-type: none"> England/ Scotland: all children aged two to less than 17 years old Ontario: all persons ≥ 6 mos of age.² As of 2015, intranasal spray is also offered freely to residents 2-59 yrs⁷ 	<ul style="list-style-type: none"> England/ Scotland: no estimate specific to children readily available Ontario, 2013: by 2 years of age (≥ 1 dose): 32.1% (28.2, 36.3)³

¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/514363/Pertussis_Green_Book_Chapter_24_Ap2016.pdf

² http://www.biotech.ca/wp-content/uploads/2016/04/vaccines_1_2010-1.pdf

³ http://www.health.gov.on.ca/en/pro/programs/immunization/docs/immunization_schedule.pdf

⁴ <http://healthycanadians.gc.ca/publications/healthy-living-vie-saine/immunization-coverage-children-2013-couverture-vaccinale-enfants/alt/icc-2013-cve-eng.pdf>

⁵ <https://www.gov.uk/government/publications/haemophilus-influenzae-type-hib-the-green-book-chapter-16>

⁶ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/663694/Greenbook_chapter_19_Influenza_.pdf

⁷ <https://news.ontario.ca/mohltc/en/2015/10/ontario-giving-parents-more-choice-with-free-nasal-spray-flu-vaccine-for-children.html>

Pneumococcal conjugate vaccine	<ul style="list-style-type: none"> England/ Scotland: 2006 Ontario: <5 years since 2005⁸ 	<ul style="list-style-type: none"> England/ Scotland: at 8 and 16 weeks of age; booster after age 1 year Ontario: 3 doses recommended at 2-, 4- and 12-months of age. 	<ul style="list-style-type: none"> England/ Scotland: all children age 8 weeks to 2 years Ontario: all children 6 weeks to 4 years of age⁹ 	<ul style="list-style-type: none"> England/ Scotland: no estimate specific to children readily available Ontario, 2013: by 2 years of age (≥ 3–4 Doses) 79.5% (75.0, 83.4)
Pneumococcal polysaccharide vaccine	<ul style="list-style-type: none"> England/ Scotland: 2010 Ontario: approved in 1983 and publicly funded for high risk groups in Ontario since 1996⁷ 	<ul style="list-style-type: none"> England/ Scotland: High-risk persons 2-64 years of age Ontario: High-risk persons 2-64 years of age 	<ul style="list-style-type: none"> England/ Scotland: at-risk children aged 2+ years Ontario: residents with valid health card, the Ontario publicly-funded immunization program covers the cost.⁸ High-risk criteria: asplenia, cardiac disease, cerebral spinal fluid leak, cochlear implant recipients, congenital immunodeficiencies, diabetes mellitus, HIV, immunocompromising therapy, liver disease, malignant neoplasms, renal disease, respiratory disease, sickle-cell diseases, solid organ or islet cell transplant, hematopoietic stem cell transplant, neurologic conditions (chronic) that may impair clearance of oral secretions, and residents of nursing homes, homes for the aged and chronic care facilities or wards⁸ 	<ul style="list-style-type: none"> England/ Scotland: no estimate specific to children readily available Ontario: no estimate specific to children readily available
Palivizumab	<ul style="list-style-type: none"> Ontario: available through special access since 1998, widely approved in 2002. 	<ul style="list-style-type: none"> England/ Scotland: Given once a month to eligible children during anticipated periods of RSV risk in the community; up to a maximum of 5 doses. Ontario: the “Respiratory Syncytial Virus Prophylaxis for High-Risk Infants” Program is provided monthly during the active season to infants meeting eligibility criteria for funding; maximum of 5 doses covered. 	<ul style="list-style-type: none"> England/ Scotland: Pre-term infants with bronchopulmonary dysplasia (BPD) (+ chronological and gestational age criteria), infants with respiratory disease who remain in oxygen at the start of the RSV season, preterm infants with haemodynamically significant, acyanotic congenital heart disease (CHD) (+ chronological and 	<ul style="list-style-type: none"> England/ Scotland: coverage in high-risk children is not readily available Ontario: no estimate specific to readily available However, an estimated 3,119 infants received at least 1 dose during the 2015/16 season¹²

⁸ http://www.health.gov.on.ca/en/public/programs/immunization/docs/pcv_hcp_qa_en.pdf

⁹ http://www.health.gov.on.ca/en/pro/programs/immunization/docs/immunization_schedule.pdf

¹² <http://www.cbc.ca/news/health/rsv-drug-synagis-palivizumab-premature-infants-abbvie-provinces-health-care-1.4056823>

			<p>gestational age criteria), CHD with significant co-morbidities, < 24 months old with Severe Combined Immunodeficiency Syndrome¹⁰</p> <ul style="list-style-type: none"> ▪ Ontario: high-risk children (born <32 wGA and ≤ 6mos of age; 33-35 wGA and ≤6 mos of age with risk factors, such as living in an isolated community; <24 mos with Trisomy 21, BPD, or significant CHD.¹¹ Others may also be considered on a case-by-case basis). 	
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¹⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/458469/Green_Book_Chapter_27a_v2_0W.PDF

¹¹ http://www.health.gov.on.ca/en/pro/programs/drugs/funded_drug/fund_respiratory.aspx

Supplemental Table S2. Details regarding the linked data used for Ontario, Scotland and England

	Ontario	Scotland	England
Number of included live births during study period (2002-2012)	1,299,240	547,556	3,910,401
Linked birth->hospital records availability	April 2002 (if requiring gestational age or if only considering ICD-10); 1988, otherwise	2000 (if only considering ICD-10); 1981, otherwise	1 st January 2003 - 30 th March 2014 (births count as inpatient admissions)
Linked maternity->birth records availability	April 2002 (if only considering ICD-10); 1988 otherwise. Prior to April 2002, Maternal-Newborn matching number was not available and institution number, postal code, and admission/discharge dates were used for linkage.	2000 (if only considering ICD-10); 1981, otherwise	Linkage to longitudinal maternal hospital record available between 1 st January 2003-30 th March 2014. All birth and delivery admissions have a maternity tail with information on the baby and mother.
Data items with missing data on birth records and % missing	Between 2003-2012: Gestational age: 0.01% to 0.24% Maternal age: 2.67% to 3.25%	Between 2003-2012: Gestational age: 3.80% to 4.95% Birthweight: 1.03% to 2.54% Maternal age: 3.01%-5.80%	N/A: used complete-data subset
Basic unit of hospital data	Discharges, linked to create hospitalization episodes in which transfers between hospitals are considered part of the same episode.	Episodes (linked to provide comparable admissions to England)	Finished consultant episode (FCE), linked to create admissions where episodes for which the difference between the admission date and previous discharge data is ≤ 0 belong to same admission.
Linked hospital records available from	Hospital admissions discharged from April 1988 onwards	Admissions ending 1 st Jan 1981 onwards	FCEs ending 1st April 1997 onwards
Linked mortality->hospital admission data availability	Deaths registered Jan 1990 onwards	Deaths registered 1 st Jan 1980 onwards (linked to hospital birth records); Deaths registered 1 st Jan 1981 onwards (linked to hospital inpatient records)	Deaths registered 1 st January 1998 onwards
Number of diagnoses per episode or admission	Before April 2002: 10/discharge; from April 2002 onward: 25/discharge	Up to 6/admission	1997-2001: up to 7/FCE; 2002-2006: up to 14/FCE; 2007-2010: up to 20/FCE
Number of ICD-10 coded causes of death in linked data	Before 2013: Up to 12 mentions; from 2013 onward up to 22 mentions	Up to 11 mentions	Up to 15 mentions
Date ICD-10 coding introduced on hospital records	Discharges: 1 st April 2002 onwards	Admissions ending 1 st April 1996 onwards	FCEs ending 1 st April 1997 onwards
Date ICD-10 coding introduced on death registration data	Deaths registered January 2000 onward	Deaths registered 1 st January 2000 onwards	Deaths registered 1 st January 2001 onwards
Variables used for linkage to death registration records	Deterministic and probabilistic linkage based on direct identifiers such as name, postal code, and date of birth	Deterministic linkage based on CHI number	Hierarchical algorithm based on combinations of: NHS number, date of birth, sex, postcode
Variables used for linkage of hospital records across time	Health card number	CHI number	Hierarchical algorithm based on combinations of: NHS number, date of birth, sex, postcode, provider, local patient ID

Supplemental Table S3. ICD-10 codes used to identify high risk medical conditions

<i>Major congenital and other neurological impairments or anomalies</i>		<i>Cardiac and respiratory systems anomalies and other severe chronic diseases</i>	
ICD-10 Code	Description	ICD-10 Code	Description
Q00	Anencephaly and similar malformations	Q18.0	Sinus, fistula and cyst of branchial cleft
Q01	Encephalocele	Q20-28	Congenital malformations, circulatory system
Q02	Microcephaly	Q30-34	Congenital anomalies, respiratory system
Q04	Other congenital malformations of brain	Q35-37	Cleft lip and cleft palate
Q05, Q07.0,	Spina Bifida	P25	Interstitial emphysema and related conditions originating in the perinatal period
G91	Hydrocephalus	P27	Chronic respiratory disease originating in the perinatal period
G94.0	Hydrocephalus in infectious and parasitic diseases classified elsewhere	E84, P75	Cystic Fibrosis
G94.1	Hydrocephalus in neoplastic disease	I01-I02.0	Acute Rheumatic Fever
G94.2	Hydrocephalus in other diseases classified elsewhere	I05.0-I09.9	Chronic rheumatic fever
G95, G96, G98, G99	Other disorders of the nervous system	I11-I13	Hypertensive diseases
Q03	Congenital hydrocephalus	I21-I25	ST Elevation, other acute IHD & chronic IHD
Q90	Down syndrome	I26-I28	Pulmonary heart disease and diseases of pulmonary circulation
G35-G37	Demyelinating diseases of central nervous system	I31-I39.8, I41-52	Other forms of chronic heart disease
G40	Epilepsy and recurrent seizures	I99	Other and unspecified disorders, circulatory system
G41.0	Grand mal status epilepticus	J41-J43.9, J98.2	Chronic bronchitis & emphysema
G41.8	Other status epilepticus	J45-47	Asthma & Bronchiectasis
G41.9	Status epilepticus, unspecified	J96.1	Chronic respiratory failure
G71.2	Congenital myopathies	M05.1	Rheumatoid lung disease
G71.3	Mitochondrial myopathy, not elsewhere classified	A15-19	Tuberculosis TB)
G71.0	Muscular dystrophy	B90	Sequelae of TB
G71.1	Myotonic disorders	P20, P21	Fetal asphyxia, Birth asphyxia);
G71.9	Primary disorder of muscle, unspecified	P25-P27.9	Perinatal Respiratory & Cardiovascular diseases
G72.9	Myopathy, unspecified	Q18.0, Q18.8, Q20.0-37.9	Congenital malformations of the respiratory system
G70.9, G90.1	Familial dysautonomia [riley-day]	D57.0-D57.2; D57.8	Sickle cell disease
Q07.8, Q07.9	Other specified congenital malformations of nervous system	D80-D84; D89.8, D89.9	Hereditary immunodeficiency
Q06, Q07.0	Other congenital malformations of spinal cord and nervous system	D55, D56.0-56.2, D56.4, D56.8-D61.9	Anemias
F84.2	Rett's syndrome	D55-59	Other hemoglobinopathies
G31.8	Other specified degenerative diseases of nervous system	D70	Neutropenia
G31.9	Degenerative disease of nervous system, unspec	D71-72	Functional disorders of polymorphonuclear neutrophils and genetic anomalies of leukocytes

G80.0-G82.5	Cerebral palsy and other paralytic syndromes	D73.0	Spleen disease NOS, Hypersplenism
Q91.0	Trisomy 18, meiotic nondisjunction	D73.1, D73.2	Hypersplenism and chronic congestive splenomegaly
Q91.1	Trisomy 18, mosaicism	Q89.0	Asplenia/ congenital malformation of spleen
Q91.2	Trisomy 18, translocation	E10	Type 1 diabetes mellitus
Q91.3	Edwards' syndrome, unspecified	P70.2	Neonatal diabetes
Q93	Monosomies and deletions from the autosomes, not elsewhere classified	N00-N29.8, P96.0	Chronic and other kidney diseases
Q95.3	Balanced sex/autosomal rearrangement in abnormal individual	K71-76	Chronic liver disease
Q95.8	Other balanced rearrangements and structural markers	N04	Nephrotic syndrome
Q92	Other trisomies and partial trisomies of the autosomes, not elsewhere classified	B24, R75	HIV Positive
Q97, Q98.5-99.0, Q99.2	Other sex chromosome abnormalities	C00-96, M90.4-90.7	Diagnosed with malignant neoplasms (of any site)
F70 – F71	Mild and moderate mental disabilities		
F72	Severe mental disabilities		
F73.0	Profound mental disabilities		
G12.0	Infantile spinal muscular atrophy, type I		
A81	Atypical virus infections of central nervous system		
F07.1	Post-encephalitic syndrome		
F80.3	Acquired aphasia with epilepsy [Landau-Kleffner]		
G04.1	Tropical spastic paraplegia		
G08-G09	Intracranial and intraspinal phlebitis and thrombophlebitis and sequelae of inflammatory diseases of central nervous system		
G10	Huntington's disease		
G11	Hereditary ataxia		
G12	Spinal muscular atrophy and related syndrome		
G23.0, G23.8, G23.9,	Other degenerative diseases of basal ganglia		
G24.1,	Idiopathic familial dystonia & idiopathic nonfamilial dystonia		
G24.2			
G93.8, G93.9; G94.1	Other specified disorders of brain		
I69	Sequelae of cerebrovascular disease		
P10-P15	Birth trauma		
P52.0-P57.9	Hemorrhagic and hematological disorders of newborn		
P91	Other disturbances of cerebral status of newborn		
Q60	Renal agenesis and other reduction defects of kidney		

Supplemental Table S4: Number of all-cause deaths and crude mortality rates (per 100,000 child-years) from 28 days to 4 (inclusive) years of age, 2003-2013, with 95% confidence intervals (CI); by jurisdiction and risk factor

Risk factor	Ontario (Canada)			Scotland			England		
	n (%) deaths	Rate	95% CI	n (%) deaths	Rate	95% CI	n (%) deaths	Rate	95% CI
Sex									
Male	1,179 (57.09)	42.98	40.56, 45.51	609 (55.82)	53.59	49.50, 58.02	4,032 (56.04)	51.57	50.00, 53.18
Female	886 (42.91)	34.10	31.89, 36.42	482 (44.18)	44.76	40.93, 48.94	3,163 (43.96)	42.53	41.07, 44.03
Gestational age (weeks)									
Preterm (<34)	288 (13.95)	386.00	342.70, 433.25	136 (12.47)	418.49	353.75, 495.08	1,233 (17.14)	557.79	527.50, 589.80
Late preterm (34-36)	214 (10.36)	83.58	72.76, 95.56	128 (11.73)	141.54	119.03, 168.32	762 (10.59)	117.68	109.61, 126.33
Early term (37-38)	602 (29.15)	43.43	40.03, 47.04	203 (18.61)	56.51	49.25, 64.84	1,648 (22.90)	58.05	55.31, 60.92
Term (39-40)	821 (39.76)	28.01	26.13, 29.99	361 (33.09)	33.07	29.83, 36.66	2,499 (34.73)	31.96	30.73, 33.24
Late term (41+)	139 (6.73)	20.10	16.89, 23.73	140 (12.83)	25.77	21.84, 30.42	1,053 (14.64)	28.23	26.57, 29.99
High-risk chronic condition recorded before 1st birthday									
Yes	1,089 (52.74)	396.99	373.76, 421.29	575 (52.70)	466.73	22.65, 26.91	4,287 (59.58)	316.19	306.87, 325.80
No	976 (47.26)	19.26	18.07, 20.51	515 (47.25)	24.64	22.60, 26.87	2,908 (40.41)	20.92	20.17, 21.69
High-risk chronic condition recorded before 5th birthday									
Yes	1,261 (61.07)	348.51	329.53, 368.29	700 (64.16)	353.24	430.10, 506.48	4,850 (67.41)	284.54	276.65, 292.67
No	804 (38.93)	16.15	15.05, 17.30	391 (35.87)	19.41	17.57, 21.43	2,345 (32.59)	17.30	16.62, 18.02
Maternal age (years)									
<19	112 (5.42)	98.10	80.78, 118.04	78 (7.15)	81.17	65.01, 101.33	460 (6.39)	80.86	73.80, 88.60
19-24	528 (25.57)	66.88	61.30, 72.84	249 (22.80)	53.71	47.44, 60.82	2,053 (28.53)	60.97	58.39, 63.66
25-29	530 (25.67)	35.75	32.77, 38.92	224 (20.53)	40.86	35.84, 46.57	1,827 (25.39)	44.63	42.63, 46.73
30-34	496 (24.02)	28.12	25.70, 30.71	251 (23.01)	42.14	37.24, 47.69	1,673 (23.25)	39.01	37.18, 40.92
35-39	254 (12.30)	28.57	25.16, 32.31	131 (12.01)	38.05	32.06, 45.15	912 (12.68)	37.94	35.56, 40.49
40+	81 (3.92)	44.48	35.32, 55.28	35 (3.21)	49.76	35.72, 69.30	270 (3.75)	56.87	56.87, 56.87
Area-level deprivation quintile									
1st (Least deprived)	344 (16.66)	27.71	24.86, 30.80	147 (13.47)	36.80	31.30, 43.25	690 (9.59)	30.65	28.45, 33.03
2nd	296 (14.33)	30.91	27.48, 34.63	169 (15.49)	43.32	37.25, 50.37	810 (11.26)	34.19	31.91, 36.62
3rd	326 (15.79)	34.55	30.90, 38.51	214 (19.62)	48.24	42.19, 55.16	1,088 (15.12)	40.05	37.74, 42.51
4th	404 (19.56)	42.58	38.53, 46.95	222 (20.35)	47.55	41.69, 54.23	1,672 (23.24)	50.43	48.07, 52.91
5th (Most deprived)	615 (29.78)	52.71	48.63, 57.05	339 (31.07)	66.05	59.38, 73.47	2,935 (40.79)	63.74	61.47, 66.09

Supplemental Table S5: Number and crude rate of respiratory tract infection-related mortality (per 100,000 child years) from 28 days to 4 years of age (inclusive), i.e., up to 5th birthday, occurring in calendar years 2003-2013, with 95% confidence intervals (CI); by jurisdiction and risk factor

Risk factor	Ontario (Canada)			Scotland			England		
	n (%) deaths	Rate	95% CI	n (%) deaths	Rate	95% CI	n (%) deaths	Rate	95% CI
Sex									
Male	165 (53.40)	6.02	5.13, 7.01	111 (56.63)	9.77	8.11, 11.76	913 (55.43)	11.68	10.94, 12.46
Female	144 (46.60)	5.54	4.67, 6.52	85 (43.37)	7.89	6.38, 9.76	734 (44.57)	9.87	9.18, 10.61
Gestational age (weeks)									
Preterm (<34)	45 (14.56)	60.31	43.99, 80.70	19 (9.69)	58.47	37.29, 91.66	190 (11.54)	85.95	74.56, 99.09
Late preterm (34-36)	40 (12.94)	15.62	11.16, 21.27	30 (15.31)	33.17	23.20, 47.45	203 (12.33)	31.35	27.32, 35.97
Early term (37-38)	87 (28.16)	6.28	5.03, 7.74	44 (22.45)	12.25	9.12, 16.46	402 (24.41)	14.16	12.84, 15.61
Term (39-40)	120 (38.83)	4.09	3.39, 4.90	69 (35.20)	6.32	4.99, 8.00	612 (37.16)	7.83	7.23, 8.47
Late term (41+)	17 (5.50)	2.46	1.43, 3.94	23 (11.73)	4.23	2.81, 6.37	240 (14.57)	6.43	5.67, 7.30
High-risk chronic condition recorded before 1st birthday									
Yes	223 (72.17)	81.29	70.97, 92.69	122 (62.24)	99.03	82.93, 118.26	1,199 (72.80)	88.43	83.57, 93.58
No	86 (27.83)	1.70	1.36, 2.1	74 (37.95)	3.54	2.82, 4.45	448 (27.20)	3.22	2.94, 3.54
High-risk chronic condition recorded before 5th birthday									
Yes	259 (83.82)	71.58	63.13, 80.85	156 (79.59)	78.72	67.29, 92.10	1,363 (82.76)	79.97	75.83, 84.33
No	50 (16.18)	1.00	0.75, 1.32	40 (20.51)	1.99	1.46, 2.71	284 (17.24)	2.10	1.87, 2.35
Maternal age (years)									
<19	17 (5.50)	14.89	8.67, 23.84	10 (5.10)	10.41	5.60, 19.34	78 (4.74)	13.71	10.98, 17.12
19-24	56 (18.12)	7.09	5.36, 9.21	47 (23.98)	10.14	7.62, 13.49	463 (28.11)	13.75	12.55, 15.06
25-29	88 (28.48)	5.94	4.76, 7.31	37 (18.88)	6.75	4.89, 9.31	429 (26.05)	10.48	9.53, 11.52
30-34	79 (25.57)	4.48	3.55, 5.58	46 (23.47)	7.72	5.79, 10.31	393 (23.86)	9.16	8.30, 10.12
35-39	40 (12.94)	4.50	3.21, 6.13	37 (18.88)	10.75	7.79, 14.83	221 (13.42)	9.19	8.06, 10.49
40+	21 (6.80)	11.53	7.14, 17.63	8 (4.08)	11.37	5.69, 22.74	63 (3.83)	11.78	9.20, 15.08
Area-level deprivation quintile									
1st (Least deprived)	50 (16.18)	4.03	2.99, 5.31	23 (11.73)	5.76	3.83, 8.37	161 (9.78)	7.15	6.13, 8.35
2nd	59 (19.09)	6.16	4.69, 7.95	32 (16.33)	8.20	5.80, 11.60	175 (10.63)	7.39	6.37, 8.57
3rd	45 (14.56)	4.77	3.48, 6.38	35 (17.86)	7.89	5.66, 10.99	260 (15.79)	9.57	8.48, 10.81
4th	58 (18.77)	6.11	4.64, 7.90	56 (28.57)	11.99	9.23, 15.58	379 (23.01)	11.43	10.34, 12.64
5th (Most deprived)	86 (27.83)	7.37	5.90, 9.10	50 (25.51)	9.74	7.38, 12.85	672 (40.8)	14.59	13.53, 15.74

Supplemental Table S6: Results from Cox proportional hazards models 28-364 days of age: adjusted* hazard ratios (with 95% confidence intervals) for respiratory tract infection-related mortality, by jurisdiction

Risk factor	Ontario (Canada)		Scotland		England	
	HR	95% CI	HR	95% CI	HR	95% CI
Sex						
Male	REF		REF		REF	
Female	1.16	0.85, 1.57	0.70	0.46, 1.05	1.04	0.94, 1.14
Gestational age (weeks)						
Preterm (<34)	2.21	1.39, 3.52	1.58	0.80, 3.13	3.43	2.91, 4.05
Late preterm (34-36)	1.85	1.11, 3.08	2.73	1.53, 4.86	3.03	2.59, 3.55
Early term (37-38)	1.42	0.97, 2.09	1.41	0.84, 2.38	1.79	1.58, 2.03
Term (39-40)	REF		REF		REF	
Late term (41+)	0.69	0.36, 1.31	0.64	0.32, 1.30	0.7	0.60, 0.81
High-risk chronic condition						
No	REF		REF		REF	
Yes, recorded <1 year of age	78.17	51.58, 118.49	25.25	16.68, 40.35	35.47	31.17, 40.36
Maternal age (years)						
<19	2.39	1.10, 5.20	1.87	0.73, 4.76	1.09	0.85, 1.39
19-24	1.79	1.12, 2.88	1.71	0.96, 3.04	1.22	1.07, 1.40
25-29	1.42	0.92, 2.20	0.90	0.48, 1.69	1.03	0.90, 1.19
30-34	REF		REF		REF	
35-39	1.12	0.66, 1.91	1.37	0.48, 2.60	0.99	0.84, 1.17
40+	3.33	1.84, 6.00	1.71	0.64, 4.17	1.12	0.85, 1.46
Area-level deprivation quintile						
1st (Least deprived)	REF		REF		REF	
2nd	1.33	0.79, 2.24	0.85	0.39, 1.84	0.98	0.79, 1.22
3rd	1.02	0.59, 1.77	1.32	0.66, 2.62	1.23	1.01, 1.50
4th	0.92	0.52, 1.61	1.83	0.96, 3.48	1.44	1.19, 1.73
5th (Most deprived)	1.70	1.07, 2.71	1.34	0.70, 2.45	1.78	1.49, 2.12

*Adjusted for all listed covariates. CI=confidence interval; HR=hazard ratio

Supplemental Table S7: Results from Cox proportional hazards models 1-4 years of age: adjusted* hazard ratios (with 95% confidence intervals) for respiratory tract infection-related mortality, by jurisdiction

Risk factor	Ontario (Canada)		Scotland		England	
	HR	95% CI	HR	95% CI	HR	95% CI
Sex						
Male	REF		REF		REF	
Female	1.13	0.80, 1.58	1.22	0.79, 1.87	0.98	0.86, 1.12
Gestational age (weeks)						
Preterm (<34)	1.81	1.04, 3.17	1.71	0.50, 3.88	4.3	3.52, 5.24
Late preterm (34-36)	2.07	1.23, 3.49	2.36	1.19, 4.69	3.88	3.18, 4.74
Early term (37-38)	1.19	0.78, 1.80	1.52	0.87, 2.63	2.01	1.69, 2.37
Term (39-40)	REF		REF		REF	
Late term (41+)	0.40	0.17, 0.93	0.81	0.43, 1.53	0.61	0.49, 0.75
High-risk chronic condition						
No	REF		REF		REF	
Yes, recorded <5 years of age	64.55	40.60, 102.64	57.77	31.18, 107.03	40.83	34.60, 48.17
Maternal age (years)						
<19	2.39	1.16, 4.96	0.72	0.25, 2.06	1.13	0.82, 1.57
19-24	0.86	0.50, 1.48	0.61	0.32, 1.14	1.29	1.07, 1.54
25-29	1.05	0.68, 1.62	0.63	0.34, 1.16	1.16	0.97, 1.39
30-34	REF		REF		REF	
35-39	0.79	0.46, 1.38	1.18	0.64, 2.15	1.04	0.83, 1.29
40+	0.93	0.37, 2.35	0.88	0.27, 2.92	1.31	0.94, 1.82
Area-level deprivation quintile						
1st (Least deprived)	REF		REF		REF	
2nd	1.63	0.92, 2.87	2.97	1.24, 7.07	1.01	0.75, 1.37
3rd	1.13	0.61, 2.10	2.02	0.82, 4.98	1.36	1.04, 1.79
4th	1.84	1.06, 3.19	3.11	1.33, 7.27	1.68	1.30, 2.17
5th (Most deprived)	1.26	0.72, 2.20	2.30	0.96, 5.54	2.35	1.84, 2.99

*Adjusted for all listed covariates. CI=confidence interval; HR=hazard ratio