

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

| Database | Abbreviation | Data held |
|--------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------|
| Canadian Institutes of Health Information Discharge Abstract Database | DAD | Demographic and clinical information about all hospital admissions and discharges, including transfers and deaths. |
| National Ambulatory Care Reporting System | SDS/NACRS | Emergency department visits, day surgery and mandated outpatient clinics |
| Ontario Health Insurance Plan database | OHIP | Physicians claims for services provided |
| Ontario Laboratory Information System | OLIS | Inpatient and outpatient laboratory data |
| --- | MOMBABY | Inpatient admission records from the Discharge Abstract Database for mothers and their newborns delivered |
| Statistics Canada census data | CENSUS | Income quintile and location of residence (rural v. non-rural) defined according to postal code |
| Better Outcomes Registry and Network | BORN | Information related to maternal, perinatal and newborn health including maternal weight |
| Immigration, Refugees and Citizenship Canada Permanent Resident Database | REF | Identify maternal world region of origin as a proxy for ethnicity |
| Registered Persons Database | RPDB | Individual health card number, date of birth, sex, postal code and death date (where applicable) |

| Table A2. Variables used to define study entry and exclusion criteria, renal function measures, and stratification variables. | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| Assessment | Timing | Disease or procedure or condition | ICD-10-CA codes | OHIP ICD-9 diagnostic codes or fee codes {or other source if in parentheses} | PubMed link to related validation studies for some codes |
| Cohort entry criterion | April 2007 to October 2016 | All obstetrically delivered mothers and newborns (liveborn or stillborn) in the province of Ontario | Main patient service code indicating “obstetrical delivery” (in MOMBABY: https://datadictionary.ices.on.ca/Applications/DataDictionary/Library.aspx?Library=MOMBABY) | -- | |
| | March 2007 to December 2015 | Women who underwent serum creatinine measurement in the 10 weeks prior to conception | -- | {OLIS} | |
| Exclusion criteria | At the time of the maternal serum screening | Woman’s postal code is non-Ontario or she has an invalid OHIP number (M_VALIKN not ‘V’, SEX not ‘F’, BDATE missing, or DTHDATE < serum screening date) or problematic delivery record (WARN^=‘N’) | -- | {Registered Persons Database (RPDB) contains demographic information and encrypted healthcare numbers for all individuals eligible for OHIP} | |
| | Same | Maternal age < 16 or > 50 years or unknown | -- | {RPDB} | |
| | At the time of the index delivery hospitalization | Gestational age < 20 weeks or unknown | M_GESTWKS_DEL < 20 or B_GESTWKS_DEL < 20 in MOMBABY | -- | |
| | Same | Multifetal pregnancy | M_MULTIBIRTH=‘T’ or B_MULTIBIRTH=‘T’ in MOMBABY | -- | |

| Table A2. Variables used to define study entry and exclusion criteria, renal function measures, and stratification variables. | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Assessment | Timing | Disease or procedure or condition | ICD-10-CA codes | OHIP ICD-9 diagnostic codes or fee codes {or other source if in parentheses} | PubMed link to related validation studies for some codes |
| | Anytime prior to the index pregnancy estimated date of conception | End-stage renal disease (chronic dialysis) | 1PZ21* | R849, G323, G325, G326, G860, G862, G865, G863, G866, G330, G331, G332, G333, G861, G082, G083, G085, G090, G091, G092, G093, G094, G095, G096, G294, G295, G864, H540, H740 | 10.1186/1471-2288-11-25 |
| | Anytime prior to the index pregnancy estimated date of conception | Kidney transplantation | 1PC85* | S435, S434 {CORR database: treatment code 171; transplanted organ type code: 10,11,12,18,19} | 10.1186/s40697-015-0054-9 |
| Main study measures | Within the 10 weeks prior to estimated date of conception | Abnormal serum creatinine (SCr) > 95 th percentile of 77 µmol/L | -- | {OLIS} | |

| Table A2. Variables used to define study entry and exclusion criteria, renal function measures, and stratification variables. | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Assessment | Timing | Disease or procedure or condition | ICD-10-CA codes | OHIP ICD-9 diagnostic codes or fee codes {or other source if in parentheses} | PubMed link to related validation studies for some codes |
| | Same | Abnormal estimated glomerular filtration rate (eGFR) < 5 th percentile of 88 mL/min/1.73 m ² | -- | {OLIS: Equation provided by: CKD-EPI = 141 x min (Scr/κ, 1) ^α x max(Scr/κ, 1)-1.209 x 0.993Age x 1.018 x 1.159 [if origin is African or Caribbean**]; κ = 0.7 for females, α = -0.329 for females, min = the minimum of Scr/κ or 1, max = the maximum of Scr/κ or 1 **See World region of origin below | |
| Identification of the chronic kidney disease sub-cohort | Up to 4 years before the estimated date of conception of the index pregnancy | - Outpatient albumin to creatinine ratio > 2.0 - Dipstick positive proteinuria | -- | {OLIS: 14959-1, 30000-4, 32294-1} {OLIS: 5804-0, 50561-0} | |
| | Up to 4 years before the estimated date of conception of the index pregnancy | Chronic kidney disease (identified either by ICD-10-CA or OHIP codes, or an OLIS eGFR < 60 mL/min/1.73 m ²) | E102, E112, E132, E142, I12, I13, N08, N18, N19 | 403, 585 {OLIS: 14682-9, 14959-1, 30000-4, 32294-1} | https://www.ncbi.nlm.nih.gov/pubmed/23560464 |

| Table A2. Variables used to define study entry and exclusion criteria, renal function measures, and stratification variables. | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assessment | Timing | Disease or procedure or condition | ICD-10-CA codes | OHIP ICD-9 diagnostic codes or fee codes {or other source if in parentheses} | PubMed link to related validation studies for some codes |
| | Up to 4 years before the estimated date of conception of the index pregnancy | Acute kidney injury | N17 | | 10.1136/bmjopen-2012-001821 |
| | Up to 4 years before the estimated date of conception of the index pregnancy | Hypertensive disorder of pregnancy | O11, O13, O14, O15, O16 | 642 | 10.1093/aje/kwm139 ; 10.1016/j.ajog.2005.08.058 |
| Study outcomes | At the time of the index delivery hospitalization | Preterm live birth < 37 completed weeks' gestation | B_GESTWKS_DEL < 37 in MOMBABY (if missing use M_GESTWKS_DEL) | -- | https://www.ncbi.nlm.nih.gov/pubmed/?term=Validation+of+perinatal+data+in+the+Discharge+Abstract+Database+of+the+Canadian+Institute+for+Health |
| | Same | Provider-initiated preterm live birth < 37 weeks: 1) PTB and 2) absence of preterm spontaneous labour and 3) presence of c-section or induction | 1) Preterm live birth < 37 weeks (see above); and 2) absence of O601, O602, O42, O756; and 3) presence of 5MD60* or 5AC30* | -- | https://www.ncbi.nlm.nih.gov/pubmed/28646095 |
| | Same | Spontaneous preterm live birth < 37 weeks | Preterm live birth < 37 weeks and not provider-initiated (see above) | -- | |
| | Same | Preterm live birth < 32 completed weeks' gestation | B_GESTWKS_DEL < 32 in MOMBABY (if missing use M_GESTWKS_DEL) | -- | |

| Table A2. Variables used to define study entry and exclusion criteria, renal function measures, and stratification variables. | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Assessment | Timing | Disease or procedure or condition | ICD-10-CA codes | OHIP ICD-9 diagnostic codes or fee codes {or other source if in parentheses} | PubMed link to related validation studies for some codes |
| | Same | Preeclampsia or eclampsia | O11, O14, O15 | -- | https://www.ncbi.nlm.nih.gov/pubmed/19527567 |
| | Same | Severe small for gestational age birthweight < 5 th percentile | B_GESTWKS_DEL, B_WEIGHT and B_SEX in MOMBABY | -- | https://www.ncbi.nlm.nih.gov/pubmed/29117948 |
| | Same | Stillbirth | M_STILLBIRTH='T' in MOMBABY | -- | |
| Covariates | At the time of the index conception | Maternal age | -- | RPDB | |
| | At the time of SCr measurement | World region of origin | -- | {IRCC Permanent Resident Database: COUNTRY_BIRTH } | https://www.ncbi.nlm.nih.gov/pubmed/25384653 |
| | Same | Maternal area-level income Quintile | -- | {Statistics Canada census data} | |
| | Same | Maternal rural residence | -- | {Statistics Canada census data} | |
| | Same (recorded at the index delivery hospitalization) | Parity | PREVBIRTH in MOMBABY | -- | |

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|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Assessment | Timing | Disease or procedure or condition | ICD-10-CA codes | OHIP ICD-9 diagnostic codes or fee codes {or other source if in parentheses} | PubMed link to related validation studies for some codes |
| | Same (recorded at the index delivery hospitalization) | Maternal Weight | -- | {BORN: MATWGKKG (Niday link on M_KEY) or PRE_PREG_MATERNAL_WT_KG (BIS, AGG_PREGNANCY, link on M_IKN and B_BDATE/M_ADMDATE +/- 7 days)} | |
| | Up to 4 years before the estimated date of conception of the index pregnancy | Pre-pregnancy diabetes mellitus | E10, E11, E13, E14, O244 | 250 | https://www.ncbi.nlm.nih.gov/pubmed/11874939 |
| | Same | Chronic hypertension | I10, I15, O10, O11 | 401 | https://www.ncbi.nlm.nih.gov/pubmed/19858407 |
| | Same | Drug-dependence or tobacco use | F10-F19, F55, G312, O354, O355, T51, T652, Z720, Z721, Z722 | 291, 292, 303, 304, 305 | |

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| Assessment | Timing | Disease or procedure or condition | ICD-10-CA codes | OHIP ICD-9 diagnostic codes or fee codes {or other source if in parentheses} | PubMed link to related validation studies for some codes |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| | Up to 4 years before the estimated date of conception of the index pregnancy (and only used as additional covariates in analyses among the chronic kidney disease sub-cohort) | Prior proteinuric renal disease - Outpatient albumin to creatinine ratio > 2.0 - Dipstick positive proteinuria | -- | {OLIS: 14959-1, 30000-4, 32294-1} {OLIS: 5804-0, 50561-0} | |

*Indicates coding by Canadian Classification of Interventions (corresponding to ICD-10-CA years)

BORN: Better Outcomes Registry & Network; CORR: Canadian Organ Replacement Registry; ICD-9: International Classification of Diseases, 9th Revision; ICD-10-CA: International Classification of Diseases, 10th Revision, Canada; IRCC: Immigration, Refugees and Citizenship Canada; OHIP: Ontario Health Insurance Plan; OLIS: Ontario Laboratories Information System