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Appendix 1: STROBE Checklist of items that should be included in reports of cohort studies

	Item	Recommendation	Section
Title and abstract	1	(a) Indicate the study’s design with a commonly used term in the title or the abstract	Title page
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	Abstract
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	Background
Objectives	3	State specific objectives, including any prespecified hypotheses	Background
Methods			
Study design	4	Present key elements of study design early in the paper	Methods
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	Methods
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up	Methods
		(b) For matched studies, give matching criteria and number of exposed and unexposed	N/A
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	Methods, Appendix 3-4
Data sources/measurement	8	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	Methods
Bias	9	Describe any efforts to address potential sources of bias	N/A
Study size	10	Explain how the study size was arrived at	N/A
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	Methods
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	Methods
		(b) Describe any methods used to examine subgroups and interactions	Methods
		(c) Explain how missing data were addressed	Methods
		(d) If applicable, explain how loss to follow-up was addressed	N/A
		(e) Describe any sensitivity analyses	N/A
Results			
Participants	13	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed	Methods and

STROBE checklist of items

		eligible, included in the study, completing follow-up, and analysed	Figure 1
		(b) Give reasons for non-participation at each stage	N/A
		(c) Consider use of a flow diagram	Figure 1
Descriptive data	14	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Table 1
		(b) Indicate number of participants with missing data for each variable of interest	Table 1
		(c) Summarise follow-up time (eg, average and total amount)	Figure 2, Tables 2-3
Outcome data	15	Report numbers of outcome events or summary measures over time	Tables 2-3, Appendix 6
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	Tables 2-3, Appendix 6
		(b) Report category boundaries when continuous variables were categorized	Tables 1-3, Appendix 6
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N/A
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	Tables 1-3, Appendix 6
Discussion			
Key results	18	Summarise key results with reference to study objectives	Discussion
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	Discussion
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	Discussion
Generalisability	21	Discuss the generalisability (external validity) of the study results	Discussion
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	Title page

List of codes to assign dialysis status and comorbidity for recipients

Appendix 2: List of OHIP and CIHI codes for dialysis status and comorbidity

Diagnosis or procedure	Database	Type of code	Codes
Dialysis	OHIP	Feecodes	"R849" "G323" "G336" "G325" "G326" "G860" "G862" "G863" "G865" "G866" "R825" "R826" "R827" "R833" "R840" "R851" "G330" "G331" "G332" "G861" "G864" "R852" "G082" "G083" "G085" "G090" "G091" "G092" "G093" "G094" "G095" "G096" "G294" "G295" "G333" "H540" "H740"
		ICD-9	"V451" "V560" "V568" "36104"
	CIHI	ICD-10	"T824" "Y602" "Y612" "Y622" "Y841" "Z49" "Z992" "N180" "E1022" "E1023" "E1122" "E1123" "E1322" "E1323" "E1422" "E1423"
		procedure codes	"5127" "5195" "6698"
		intervention codes	"7SC59QD" "1KY76" "1PZ21"
	OHIP	diagnosis codes	"401" "402" "403" "404" "405"
Hypertension	CIHI	ICD-9	"401" "402" "403" "404" "405"
	CIHI	ICD-10	"I10" "I11" "I12" "I13" "I15"
Cancer	OHIP	diagnosis codes	"140" "141" "142" "143" "144" "145" "146" "147" "148" "149" "150" "151" "152" "153" "154" "155" "156" "157" "158" "159" "160" "161" "162" "163" "164" "165" "170" "171" "172" "173" "174" "175" "179" "180" "181" "182" "183" "184" "185" "186" "187" "188" "189" "190" "191" "192" "193" "194" "195" "196" "197" "198" "199" "200" "201" "202" "203" "204" "205" "206" "207" "208"
			"V10" "140" "141" "142" "143" "144" "145" "146" "147" "148" "149" "150" "151" "152" "153" "154" "155" "156" "157" "158" "159" "160" "161" "162" "163" "164" "165" "170" "171" "172" "173" "174" "175" "176" "179" "180" "181" "182" "183" "184" "185" "186" "187" "188" "189" "190" "191" "192" "193" "194" "1950" "1951" "1952" "1953" "1954" "1955" "1958" "196" "197" "198" "1990" "1991" "2000" "2001" "2002" "2008" "2010" "2011" "2012" "2014" "2015" "2016" "2017" "2019" "2020" "2026" "2028" "2029" "203" "204" "205" "206" "207" "208" "230" "231" "232" "233" "234"
	CIHI	ICD-9	"80003" "80006" "80013" "80023" "80033" "80043" "80102" "80103" "80106" "80113" "80123" "80203" "80213" "83123" "87202" "87203" "959" "965" "966" "967" "968" "969" "970" "971" "980" "982" "984" "985" "986" "987" "988" "989" "990" "991" "993" "C00" "C01" "C02" "C03" "C04" "C05" "C06" "C07" "C08" "C09" "C10" "C11" "C12" "C13" "C14" "C15" "C16" "C17" "C18" "C19" "C20" "C21" "C22" "C23" "C24" "C25" "C26" "C30" "C31" "C32" "C33" "C34" "C37" "C38" "C39" "C40" "C41" "C43" "C44" "C45" "C46" "C47" "C48" "C49" "C50" "C51" "C52" "C53" "C54" "C55" "C56" "C57" "C58" "C60" "C61" "C62" "C63" "C64" "C65" "C66" "C67" "C68" "C69" "C70" "C71" "C72" "C73" "C74" "C75" "C76" "C77" "C78" "C79" "C80" "C81" "C82" "C83" "C84" "C85" "C90" "C91" "C92" "C93" "C94" "C95" "C96" "C97" "D00" "D01" "D02" "D03" "D04" "D05" "D06" "D07" "D09"
			"80003" "80006" "80013" "80023" "80033" "80043" "80102" "80103" "80106" "80113" "80123" "80203" "80213" "83123" "87202" "87203" "959" "965" "966" "967" "968" "969" "970" "971" "980" "982" "984" "985" "986" "987" "988" "989" "990" "991" "993" "C00" "C01" "C02" "C03" "C04" "C05" "C06" "C07" "C08" "C09" "C10" "C11" "C12" "C13" "C14" "C15" "C16" "C17" "C18" "C19" "C20" "C21" "C22" "C23" "C24" "C25" "C26" "C30" "C31" "C32" "C33" "C34" "C37" "C38" "C39" "C40" "C41" "C43" "C44" "C45" "C46" "C47" "C48" "C49" "C50" "C51" "C52" "C53" "C54" "C55" "C56" "C57" "C58" "C60" "C61" "C62" "C63" "C64" "C65" "C66" "C67" "C68" "C69" "C70" "C71" "C72" "C73" "C74" "C75" "C76" "C77" "C78" "C79" "C80" "C81" "C82" "C83" "C84" "C85" "C90" "C91" "C92" "C93" "C94" "C95" "C96" "C97" "D00" "D01" "D02" "D03" "D04" "D05" "D06" "D07" "D09"
	OHIP	feecodes (procedure)	"Z434" "R742" "R743" "N220" "R792" "R802" "R816" "R817" "R783" "R784" "R785" "R814" "R787" "R780" "R797" "R804"
		ICD-9	"39" "40" "41" "42" "43" "44" "45"
	CIHI	ICD-10	"I"
		procedural codes	"4802" "4803" "4809" "481" "5024" "5034" "5125"
		intervention codes	"1IJ50" "1IJ76" "1KA76" "1KG76"
Cardiovascular disease	OHIP	feecodes (procedure)	"Z434" "R742" "R743" "N220" "R792" "R802" "R816" "R817" "R783" "R784" "R785" "R814" "R787" "R780" "R797" "R804"
		ICD-9	"39" "40" "41" "42" "43" "44" "45"
	CIHI	ICD-10	"I"
		procedural codes	"4802" "4803" "4809" "481" "5024" "5034" "5125"
		intervention codes	"1IJ50" "1IJ76" "1KA76" "1KG76"

List of codes to assign dialysis status and comorbidity for recipients

Anemia	CIHI	ICD-9	"285"
		ICD-10	"D509"
IHD/CAD	CIHI	ICD-9	"414"
		ICD-10	"I120" "I121" "I122" "I123" "I124" "I125"
Diabetes	OHIP	fee codes	"K045" " K046" " K029" " K030" " Q040"
	CIHI	ICD-9	"250"
		ICD-10	"E10" "E11" "E13" "E14"
	OHIP	diagnostic codes	"311"
Anxiety/ depression	CIHI	ICD-9	"2962" "2963" "2966" "3000" "3002" "3003" "3004" "309" "311"
		ICD-10	"F063" "F064" "F204" "F313" "F314" "F315" "F32" "F33" "F341" "F400" "F401" "F402"
			"F408" "F409" "F410" "F411" "F412" "F413" "F418" "F419" "F420" "F421" "F422" "F428"
			"F429" "F430" "F431" "F432"
Heart failure	OHIP	Fee codes	"R701" "R702" "Z429"
		diagnostic codes	"428"
	CIHI	ICD-9	"425" "5184" "514" "428"
		ICD-10	"I099" "I420" "I425" "I426" "I427" "I428" "I429" "I43" "I500" "I501" "I509" "I255"
			"J81"
		procedure codes	"4961" "4962" "4963" "4964"
		intervention codes	"IHP53" "IHP55" "1HZ53GRFR" "1HZ53LAFR" "1HZ53SYFR"

OHIP - Ontario Health Insurance Plan; CIHI - Canadian Institute for Health Information (same-day surgery and discharge abstract database); ICD - International Statistical Classification of Diseases and Related Health Problems medical classification (ICD-9 before 2002; IHD/CAD - ischemic heart disease/coronary artery disease

Appendix 3: Characterizing the living donor evaluation process

We captured all OHIP physician and laboratory billings for up to four years prior to donation (1826 unique billing codes) and obtained the description for each billing code. Based on these descriptions and prior validation studies, we grouped these codes into procedures based on *a priori* judgement (Step I in Table below). We categorized remaining billing codes (observed >5 times for privacy requirements) based on the descriptions (Step II in Table below). We then assigned general billing codes to a procedure based on the main speciality of the billing physician (obtained from the ICES Physician Database, IPDB) (Step III in Table below). We then assigned remaining general billing codes to a procedure based on other procedures performed on the same day (Step IV in Table below). Next, we combined similar procedures into a single category (Step V in Table below). Finally, we considered similar procedures performed on the same day to belong to a single category if we believed the procedures were related (i.e., we combined a billing code categorized as “pain management” on the same day as a billing code categorized as “anesthesia” as “anesthesia”) (Step VI in Table below).

In order to identify the date of first contact (the date the donor started the evaluation), we set up specific rules independent of the data to decide which procedures would be considered part of the living donor evaluation process. For example, all nephrology consults and nuclear medicine exams were considered part of the evaluation since a healthy non-donor would be unlikely to have these billed if not part of the evaluation. Any procedure performed within 14 days of donation was considered part of the pre-admission visit and not a unique procedure in its own right (i.e., a nephrology consult during this time is likely not the main nephrology consult). The only exception to this rule is the surgical consult, which is allowed by some transplant programs to occur this late in the evaluation process. We provide the full list of rules in Appendix 4.

Assigning and combining OHIP billing codes

Step I – procedures defined <i>a priori</i> (n=1726)	
Procedure	OHIP billing codes
Nephrectomy	'S411', 'S423', 'S413', 'S415', 'S416', 'S420', 'S421', 'S436', 'E694', 'E753', 'E766', 'E767', 'E768', 'E792', 'S412'
Stress test	'G315', 'G174', 'G111', 'G112', 'G319', 'G582', 'G583', 'G584', 'J607', 'J608', 'J807', 'J808', 'J809', 'J866', 'J609', 'J666'
Urinalysis	'L253', 'L254', 'L633', 'L641', 'G001', 'G002', 'G003', 'G004', 'G481', 'G006', 'G007', 'G008', 'G009', 'G010'
Biochemistry	'L065', 'L067', 'L068', 'L204', 'L226', 'L004', 'L005', 'L111', 'L112', 'L093', 'L634'
Renal biopsy	'Z601', 'E820'
Ultrasound	'J128', 'J135', 'J138', 'J162', 'J163', 'J428', 'J435', 'J438', 'J462', 'J463', 'J205', 'J505'
Nephrology consult	'A135', 'A136', 'A138', 'A435', 'C435', 'C135', 'C136', 'A133', 'A134', 'A131', 'C133', 'C134', 'C131', 'A161', 'A163', 'A164', 'A165', 'A166', 'A168', 'C132', 'C137', 'C139', 'C101', 'C138', 'G860', 'G323', 'G333', 'E083', 'H540'
Urology consult	'A355', 'A356', 'A935', 'A353', 'A354', 'C355', 'C356', 'C935', 'C353', 'C354'
Echocardiography	'G560', 'G561', 'G562', 'G566', 'G567', 'G568', 'G570', 'G571', 'G572', 'G574', 'G575', 'G576', 'G577', 'G578', 'G581'
Counselling	'K013', 'K014', 'K033', 'K040', 'K041'
Surgery consultation	'A095', 'A096', 'A935', 'A093', 'A094', 'C095', 'C096', 'C935', 'C093', 'C094', 'C033', 'C034', 'A033', 'A034', 'A036', 'C035', 'C036'
Glucose tolerance test	'G498', 'L104'
Immunohematology	'L471', 'L482', 'L473', 'L490', 'L492', 'L493', 'L494', 'L495'
Histocompatibility test	'L582', 'L581', 'L583', 'L580'
Chest x-ray	'X090', 'X091', 'X092'
CT	'X231', 'X232', 'X233', 'X126', 'X409', 'X410'
MRI	'X451', 'X461'
Pyelogram	'X129', 'X130', 'X138'
Cystoscopy	'Z606', 'Z607'
Cancer screen (pap)	'G365', 'G394', 'E430', 'L812', 'L713'
Cancer screen (breast)	'X184', 'X185', 'X186', 'X187', 'X172', 'X178', 'Z139', 'Z143'
Cancer screen (PSA)	'L354', 'L358'
Cancer screen (FOBT)	'Q150A', 'Q005A', 'Q118A', 'Q119A', 'Q120A', 'Q121A', 'Q122A', 'Q123A', 'Q152A', 'Q043A', 'L181', 'G004', 'L179', 'Q152', 'Z535', 'Z536', 'Z555', 'Z580'
Anaesthesiology consult	'A015', 'A016', 'C015', 'C016', 'A903'
SUBTOTALS	1726 donors, 1826 unique billing codes, 215,363 rows
Delete any feecodes that occur <6 times in the cohort	
SUBTOTALS	1726 donors, 777 unique billing codes, 211,942 rows

Assigning and combining OHIP billing codes

Step II – categorize remaining billing codes not yet assigned after Step I above (n=1726)	
Group A – billing codes that will be discarded later (not relevant to donation) but retained for the present (may be needed to explain other codes; for example, a biochemistry test performed on the same day as an emergency medicine visit is likely due to the emergency medicine visit, and not the donor evaluation)	
Procedure	OHIP codes
Allergies	'G196', 'G197', 'G200', 'G202', 'G209', 'G212'
Baby care	'A008', 'E411', 'G367', 'G378', 'J157', 'J158', 'J159', 'J160', 'J164', 'J168', 'J457', 'J458', 'J459', 'J460', 'J464', 'L103', 'L819', 'L820', 'P003', 'P004', 'P005', 'P006', 'P007', 'P008', 'P014', 'P016', 'P018', 'P023', 'P025', 'P030', 'P041'
STD counselling	'K028'
Biochemistry	'G871', 'G872', 'L718', 'L719'
Other CT	'X400', 'X401', 'X402', 'X404', 'X407', 'X412', 'X415'
Other surgical radiology	'X001', 'X004', 'X005', 'X007', 'X008', 'X016', 'X020', 'X025', 'X027', 'X028', 'X034', 'X035', 'X039', 'X045', 'X046', 'X048', 'X049', 'X050', 'X051', 'X052', 'X053', 'X054', 'X055', 'X056', 'X060', 'X063', 'X064', 'X065', 'X066', 'X067', 'X068', 'X069', 'X202', 'X203', 'X204', 'X205', 'X206', 'X207', 'X208', 'X210', 'X212', 'X215', 'X217', 'X218', 'X219', 'X220', 'X221', 'X224', 'X225', 'X226', 'X227', 'X228', 'X229', 'X230'
Emergency medicine	'K963', 'K996', 'Q090'
General eye care	'A111', 'A238', 'E140', 'E950', 'G219', 'Z847'
Fracture/casting	'F004', 'F008', 'F027', 'F061', 'Z203', 'Z204', 'Z213'
Diagnostic ultrasound of face	'J105', 'J108', 'J182', 'J183', 'J196', 'J200', 'J405', 'J482', 'J483', 'J496', 'J500'
Mandatory reporting to Ministry of Transportation	'K035'
MRI (other)	'X421', 'X425', 'X471', 'X475', 'X490', 'X492', 'X493', 'X495'
Some paediatric code	'A261', 'A263', 'A264', 'A265'
Sleep study	'J690', 'J889', 'J890', 'J895', 'J896'
Sports medicine or physical medicine	'A917', 'D016', 'E494', 'E552', 'E584', 'G370', 'G371'
Other/unknown	'H991', 'K037', 'K080', 'K683', 'M012', 'M060', 'N290', 'Q590', 'R110', 'R204', 'R205', 'R207', 'R302', 'R355', 'R416', 'R441', 'R495', 'R542', 'R687', 'G014', 'S120', 'S205', 'S247', 'S323', 'S738', 'S741', 'S745', 'S752', 'S754', 'S757', 'S772', 'S810', 'Z101', 'Z154', 'Z218', 'Z314', 'Z907'
Group B – lab tests referred to under the umbrella of “biochemistry”	
Procedure	OHIP codes
Radioassay	'L303', 'L309', 'L310', 'L315', 'L318', 'L319', 'L322', 'L325', 'L328', 'L329', 'L330', 'L331', 'L332', 'L334', 'L339', 'L340', 'L341', 'L345', 'L347', 'L606', 'L607', 'L608', 'L609'
Cholesterol	'L055', 'L117', 'L243'
Microbiology	'L622', 'L625', 'L626', 'L627', 'L628', 'L630', 'L636', 'L639', 'L643', 'L650', 'L653', 'L654', 'L655', 'L665', 'L668', 'L679', 'L683'
Immunology/virology	'L500', 'L501', 'L535', 'L544', 'L550', 'L551', 'L552', 'L553', 'L555', 'L575', 'L610', 'L842'
Hematology	'L393', 'L398', 'L419', 'L445', 'L451', 'L453', 'L462', 'L829'
General	'L018', 'L030', 'L031', 'L045', 'L046', 'L', 'L051', 'L053', 'L061', 'L066', 'L085', 'L107', 'L139', 'L146', 'L150', 'L157', 'L165', 'L169', 'L183', 'L191', 'L194', 'L208', 'L222', 'L223', 'L251', 'L252', 'L257', 'L266'

Assigning and combining OHIP billing codes

Cytology	'L700', 'L711', 'L733', 'L800', 'L810'
Group C – other codes deemed relevant and either started a new procedure category or merged in with Step I above	
Procedure	OHIP codes
Intermediate assessment	'A007'
Anesthesiology	'A013', 'A014', 'C012', 'C013', 'C014', 'C998', 'E001', 'E003', 'E004', 'E007', 'E010', 'E011', 'E017', 'E020', 'E022', 'E023', 'E400', 'E401'
Cardiac evaluation	'A605', 'A608', 'G268', 'G269', 'G297', 'G483', 'G489', 'J611', 'J613', 'J667', 'J804', 'J811', 'J813', 'J814', 'J867', 'Z440', 'Z442'
Counselling	'K002', 'K004', 'K005', 'K007', 'K016', 'K024', 'K025', 'K099', 'K190', 'K195', 'K197', 'K205'
CT	'X405', 'X406', 'X417'
Cholecystectomy	'E794', 'S287'
Some specialist consult	'A145'
Dermatology	'A023', 'A024', 'A025'
Electrocardiogram	'E451', 'G310', 'G313', 'G579', 'G650', 'G651', 'G652', 'G658', 'G682', 'G683', 'G690', 'G692', 'G693'
Diagnostic radiology	'A331', 'A335', 'J021', 'J022', 'X036', 'X037', 'X038', 'X100', 'X101', 'X103', 'X104', 'X106', 'X111', 'X113', 'X125', 'X181', 'X182', 'X189', 'X194', 'X200'
Endocrinology	'A154', 'A155', 'J817', 'J818', 'J820'
Gastroenterology consult	'A415', 'A418', 'C415', 'Z399', 'Z496', 'E702', 'J832', 'E705', 'E717', 'E719', 'E720', 'E740', 'E741', 'E746', 'E747', 'E749', 'Z499', 'Z527', 'Z543', 'Z570', 'Z571', 'Z787'
General consult	'A001', 'A003', 'A004', 'A005', 'C003', 'C004', 'C933', 'K131'
Hematology consult	'A615', 'A618'
Immunization	'A625', 'G538', 'G539', 'G590', 'G591', 'G842', 'G847', 'Q003', 'Q130'
Infectious disease consult	'A465', 'L868'
Critical care	'G391', 'G395', 'G400', 'G401', 'G521', 'G523', 'G557'
MRI	'X455', 'X465', 'X487', 'X499'
Musculoskeletal consult	'J650', 'J651', 'J850', 'J851'
Nephrectomy	'E762', 'E769', 'G347', 'S435', 'S548'
Nephrology consult	'A160', 'C162', 'C165', 'C166'
Neurology evaluation	'A185', 'A188', 'G414', 'G418', 'G544', 'A044', 'A045'
Nuclear medicine	'J834', 'J835', 'J836', 'J838', 'J880', 'Y814', 'Y831'
Obstetrics/gynaecology	'A203', 'A204', 'A205', 'A206', 'C202', 'C203', 'G334', 'G399', 'X147', 'Z553', 'Z583', 'Z720', 'Z730', 'Z731', 'Z770'
Ophthalmology	'A233', 'A234', 'A235', 'A253', 'G425', 'G432', 'G435', 'G436', 'G813', 'G818', 'G820', 'G853', 'G857', 'G858'
Orthopedic	'A063', 'A064', 'A065', 'A066', 'C062'
Otology/laryngology	'A243', 'A244', 'A245', 'G191', 'G403', 'G420', 'G440', 'G441', 'G442', 'G443', 'G451', 'G525', 'G526', 'G529', 'G530', 'G533', 'Z321'
Pain management	'C215', 'G220', 'G222', 'G223', 'G224', 'G227', 'G228', 'G231', 'G235', 'G238', 'G246', 'G247', 'G264'
Pathology	'A585', 'L720', 'L816', 'L817', 'L821', 'L840', 'L863', 'L864'
Physical medicine	'A315', 'A318', 'G455', 'G456', 'G457', 'G466', 'G999', 'H312'
Plastic surgery	'A083', 'A084', 'A085'

Assigning and combining OHIP billing codes

Pregnancy test	'G005'
Psychiatry	'A194', 'A195', 'C192', 'G478', 'K198', 'K199', 'K313', 'K623', 'Q020'
Pulmonary function	'E450', 'J301', 'J304', 'J306', 'J307', 'J310', 'J311', 'J313', 'J315', 'J318', 'J319', 'J322', 'J323', 'J327', 'J332', 'J333', 'J340', 'J860'
Skin lesion	'R031', 'R051', 'Z156', 'Z162', 'Z169', 'Z170'
Respirology	'A475', 'A478', 'Z296', 'Z299', 'Z327'
Rheumatology	'A485'
Sclerotherapy	'G536', 'G537'
Smoking cessation	'E079', 'K039', 'Q041', 'Q042'
General surgeon consult	'A035', 'A644', 'A645', 'C032'
Ultrasound	'J149', 'J161', 'J165', 'J193', 'J198', 'J201', 'J202', 'J203', 'J206', 'J425', 'J493', 'J498', 'J501', 'J502'
Urology consult	'C352', 'G193', 'G475', 'G476', 'G900'
Bone mineral density test	'X146', 'X153', 'X155'
Birth control surgery	'S626'
Home visit	'A901', 'B994'
Travel reimbursement	'K036'
Group D – cancer screening codes	
Procedure	OHIP codes
Colorectal	'Q005', 'Q133', 'Q142'
Fecal occult blood test	'Q150'
Breast	'Q002', 'Q131', 'R111', 'X201', 'J427', 'J127'
Papanicolaou test	'Q001', 'Q011', 'Q140'

Assigning and combining OHIP billing codes

Step III – categorize remaining billing codes not yet assigned after Step II using the main specialty associated with the usage of that code (n=1726)	
OHIP codes	Procedure (using main specialty)
'E082'	gastroenterology, urology, nephrology, respirology, orthopaedic, general surgery consult, general consult, internal medicine
'E078'	rheumatology, cardiac evaluation, nephrology, respirology, gastroenterology, internal medicine, neurology, hematology, endocrinology
'A473'	Respirology
'A183', 'A184'	Neurology
'H065', 'H101', 'H103', 'H123', 'H124', 'H131', 'H133', 'H153', 'H154', 'H151'	Emergency medicine
'Z611', 'Z113', 'Z116', 'Z117'	Dermatology
'Z611'	Ob/gyn, otolaryngology
'A888'	General consult
'A603', 'A604'	Cardiac evaluation
Any code	Nephrectomy (if on donation date)

Step IV – generic billing codes that will be assigned using any procedure already defined on the same day (i.e., a general code on the same day as a cardiac evaluation will be considered part of that cardiac evaluation) (n=1726)	
OHIP billing codes	Procedure
'Q012', 'G379', 'E409', 'E542', 'E545', 'E595', 'A613', 'C002', 'C109', 'C123', 'C124', 'C992', 'E005', 'Q016', 'C994', 'G118', 'G322', 'H103', 'H055', 'H123', 'H133', 'H134', 'H152', 'H153', 'H154', 'C122', 'H104', 'H132', 'Z153', 'J001', 'K070', 'A483', 'E078', 'K055', 'K992', 'K991', 'K994', 'K995', 'K998', 'K999', 'Q013', 'Q200', 'Q033', 'Z114', 'Z116', 'Z117', 'Z176', 'Z125', 'Z546', 'Z552', 'Z553', 'Z611', 'G700', 'G373', 'G372'	Various
'C122', 'Z176', 'R868', 'E595', 'A888'	Unknown/other
NOTE: the first part of this table was repeated in case there was >1 generic code on the same day	–

Step V – combining similar procedures (n=1726)	
Rule	Procedure
Nephrectomy codes the day before donation was assigned the donation date	Nephrectomy
Surgeon consult + urology consult	Surgeon/urology consult
Counselling + psychiatry	Counselling/psychiatry
NOTE: The same procedures on the same day are combined (rows are merged) and the total costs for the same procedure on the same day are summed	–
NOTE: Cancer screening tests are removed from dataset if they occurred >1 year before any other test	–

Assigning and combining OHIP billing codes

Step VI – combining similar procedures if done on the same day (n=1403)	
Procedure 1 (to be combined with [renamed as] Procedure 2)	Procedure 2
Pain management	Anesthesia
CT (discard)	CT
MRI (discard)	MRI
Dermatology	Skin lesion
Diagnostic ultrasound of face	Ultrasound
Pulmonary function	Allergies (discard)
Pulmonary function	Respirology
Pulmonary function	Smoking cessation
Pulmonary function	Sleep study (discard)
Smoking cessation	General consult
Smoking cessation	Intermediate assessment
Intermediate assessment	Gastroenterology
Intermediate assessment	Cardiac evaluation
Intermediate assessment	Pulmonary function
Intermediate assessment	Ophthalmology
Intermediate assessment	Obstetrics/gynaecology
Intermediate assessment	Otology/laryngology
Intermediate assessment	Sclerotherapy
Intermediate assessment	Pathology
Intermediate assessment	Sports medicine/physical medicine (discard)
Cytology	Obstetrics/gynaecology
Anaesthesiology	Cystoscopy
Obstetrics/gynaecology	Cancer screen (pap)
Plastic surgery	Skin lesion
Plastic surgery	Orthopaedic
Plastic surgery	Cancer screen (breast)
Diagnostic radiology	Ultrasound
Anaesthesiology	Sports medicine/physical medicine (discard)
Orthopaedic	Sports medicine/physical medicine (discard)
Physical medicine	Sports medicine/physical medicine (discard)
Plastic surgery	Sports medicine/physical medicine (discard)

Assigning and combining OHIP billing codes

Pain management	Sports medicine/physical medicine (discard)
Sleep study (discard)	Cardiac evaluation
Fecal occult blood test	Cancer screen (colorectal)
Gastroenterology	Cancer screen (colorectal)
Anaesthesiology	Cancer screen (colorectal)
Cytology	Cancer screen (colorectal)
Intermediate assessment	Cancer screen (colorectal)
Pathology	Infectious disease consult
Pathology	Cancer screen (pap)
Pathology	Cancer screen (breast)
Pathology	Cancer screen (colorectal)
Pathology	Fecal occult blood test
Pathology	Cytology
Pathology	Dermatology
Pathology	Gastroenterology
Pathology	Obstetrics/gynaecology
Pathology	Skin lesion
Respirology	Otology/laryngology
General consult	Cancer screen (pap)
Cytology	Cancer screen (pap)
General consult	Cancer screen (colorectal)
General consult	Cancer screen (breast)
General consult	Cancer screen (PSA)
General consult	Birth control surgery (discard)
Anaesthesiology	Birth control surgery (discard)
Intermediate assessment	Birth control surgery (discard)
Diagnostic radiology	Cancer screen (breast)
Diagnostic radiology	Cancer screen (colorectal)
Diagnostic radiology	Renal biopsy
Diagnostic radiology	Ultrasound
Diagnostic radiology	Chest x-ray
Diagnostic radiology	Diagnostic ultrasound of face (discard)
Diagnostic radiology	Other surgical radiology (discard)
Diagnostic radiology	Sports medicine (discard)

Assigning and combining OHIP billing codes

Diagnostic radiology	Emergency medicine (discard)
Diagnostic radiology	Bone mineral density test
Intermediate assessment	Cardiac evaluation
Intermediate assessment	Surgeon/urology consult
Intermediate assessment	Nephrology consult
Intermediate assessment	Counselling/psychiatry
Intermediate assessment	General surgery consult
Intermediate assessment	Neurology
Intermediate assessment	Anaesthesiology
Intermediate assessment	Orthopaedic
Intermediate assessment	Obstetrics/gynaecology
Intermediate assessment	Otology/laryngology
Intermediate assessment	Home visit
Intermediate assessment	Physical medicine
Intermediate assessment	Pain management
Intermediate assessment	Rheumatology
Intermediate assessment	Respirology
Any procedure <14 days prior to donation (except Surgeon/urology consult)	Pre-admission
Any procedure (verified through quality checks)	Fracture/casting
Any procedure (verified through quality checks)	Cholecystectomy
Any procedure (verified through quality checks)	General eye care (discard)
Any procedure (verified through quality checks)	Some paediatric code (discard)
Any biochemistry procedure	Biochemistry

Rules to determine evaluation start date

Appendix 4: Steps to identify donor's point of first contact

Rules to keep visit	Procedures where rules are applied
No rules (all are kept)	Nephrology consults
Last visit (i.e., most recent before nephrectomy)	Surgery/urology consult, preadmission
No rules (all are kept)	Nuclear medicine
4 months before nephrology consult or anytime thereafter	Cardiac evaluation
±6 months of any nephrology consult or surgeon/urology consult	<ul style="list-style-type: none"> - Lab tests (<i>urinalysis, biochemistry test, cytology, immunohematology</i>) - Diagnostic tests (<i>CT, ultrasound, echocardiography, ECG, MRI, chest x-ray, stress test, pulmonary function, pyelogram</i>) - Consults (<i>general consult, intermediate assessment, counselling/psychiatry, gastroenterology, surgery/urology consult, renal biopsy, cystoscopy, endocrinology, hematology, musculoskeletal, neurology, pathology, plastic surgery, respirology, rheumatology</i>)
±6 months of any nephrology consult or surgeon/urology consult <u>AND</u> associated with a physician who previously billed a code related to donation or a surgeon/urology consult	General surgeon consult
Within 30 days before a previously retained procedure	Counselling/psychiatry, cardiac evaluation
Within 1 year of nephrectomy	Cancer screen (pap, breast)
Within 3 years of nephrectomy	Cancer screen (colorectal)
Rules to delete visit	
No rules (all remaining are discarded)	All procedures not kept (as per the above rules)
If the first test is this procedure, this is deleted since this was likely done for another reason (i.e., the evaluation should not start with a cancer screen, a specialist consultation, etc) (repeated 8× until this was no longer observed)	Cancer screen (any)

Appendix 5: List of first and last procedures per donor

Procedure	Number (%)	
	First contact*	Approval*
Intermediate assessment	353 (28%)	90 (7%)
Biochemistry	175 (14%)	–
Cytology	152 (12%)	–
General consult	138 (11%)	–
Chest x-ray	109 (9%)	–
Electrocardiography	96 (8%)	–
Urinalysis	54 (4%)	–
Counselling/psychiatry	50 (4%)	74 (6%)
Immunohematology	43 (3%)	–
Ultrasound	35 (3%)	–
Nuclear medicine	27 (2%)	–
Surgery/urology consult	–	913 (73%)
Nephrology consult	–	129 (10%)
Computed tomography	24 (2%)	–
Cardiac evaluation	–	23 (2%)
General surgery consult	–	14 (1%)
Hematology consult	–	<6 (0%)
Pathology	–	<6 (0%)
Gastroenterology	–	<6 (0%)
Neurology	–	<6 (0%)
Respirology	–	<6 (0%)
Endocrinology	–	0 (0%)
Musculoskeletal consult	–	0 (0%)
Rheumatology	–	0 (0%)
Echocardiography	–	–
Stress test	–	–
Plastic surgery	–	–
Pulmonary function	–	–

*visits not allowed to be a first contact date or approval date are indicated by “–”