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**Supplemental Table 1-** Cost of CKD clinic

|  | Unit valuation | Quantity and cost ($ CAD) |
|---|---|---|
| Number of patients |  | 800 (end of 2012) |
| Space rental | 10,034sq. ft (entire building)<br>3,345 sq. ft/CKD program | $ 198,974/yr/building<br>$66,325 for CKD/yr |
| Building Services (contracted out) | $140,000 /entire building | $ 46,666/program/yr |
| CKD Operational costs (wages excluded) |  | $11,982/yr |
| **Wage plus benefits (per year)** |  |  |
| Receptionists | 2.0 FTE | $123,134/yr |
| Registered Nurses | 5.5 FTE | $603,444/yr |
| Dieticians | 2.0 FTE | $194,564/yr |
| Pharmacists | 2.0 FTE | $250,592/yr |
| Diabetic Nurse educator | 1.0 FTE | $114,884/yr |
| Social worker | 1.3 FTE | $98,922/yr |
| Manager | 0.5 FTE | $ 41,528/yr |
| Unit support worker | 0.3 FTE | $14,780/yr |
| Registration Clerk | 0.3 FTE | $ 16,721/yr |
| Total |  | $1,782,516/yr |

CKD: Chronic Kidney Disease; FTE: full-time equivalent; yr: year; sq. ft: square feet

**Supplemental Table 2**– Equations to apply 2 or 5-year of the eight-variable Kidney Failure Risk prediction to an individual patient

| | Kidney Failure Risk Equation |
|---|---|
| 8-variable equation, Patient 2-year risk | $1 - 0.9780 \wedge \exp(-0.1992 \times (age/10 - 7.036) + 0.1602 \times (male - 0.5642) - 0.4919 \times (eGFR/5 - 7.222) + 0.3364 \times (logACR - 5.137) - 0.3441 \times (albumin - 3.997) + 0.2604 \times (phosphate - 3.916) - 0.07354 \times (bicarbonate - 25.57) - 0.2228 \times (calcium - 9.355))$ |
| 8-variable equation, Patient 5-year risk | $1 - 0.9301 \wedge \exp(-0.1992 \times (age/10 - 7.036) + 0.1602 \times (male - 0.5642) - 0.4919 \times (eGFR/5 - 7.222) + 0.3364 \times (logACR - 5.137) - 0.3441 \times (albumin - 3.997) + 0.2604 \times (phosphate - 3.916) - 0.07354 \times (bicarbonate - 25.57) - 0.2228 \times (calcium - 9.355))$ |

eGFR: estimated glomerular filtration rate; ACR: urine albumin/creatinine ratio

**Supplemental Table 3**– Patient follow-up time

| Risk group | eGFR 30-59 mL/min/1.73m$^2$ | |
|---|---|---|
| | **Patient years** | **Follow up time Mean (SD)** |
| Low-risk (N=311) | 1312 | 4.22 (1.41) |
| Medium-risk (N=150) | 627 | 4.18 (1.39) |
| High-risk (N=68) | 296 | 4.36 (1.24) |
| Full Cohort (N=529) | 2235 | 4.22 (1.38) |
| **Risk group** | **eGFR 15-29 mL/min/1.73m$^2$** | |
| | **Patient years** | **Follow up time Mean (SD)** |
| Low-risk (N=275) | 1090 | 3.96 (1.51) |
| Medium-risk (N=86) | 321 | 373 (1.61) |
| High-risk (N=113) | 434 | 3.84 (1.57) |
| Full Cohort (N=474) | 1845 | 3.89 (1.54) |

eGFR: estimated glomerular filtration rate; SD: standard deviation; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation.

**Supplemental Table 4**– Characteristics of patients with eGFR of 30-59 mL/min per 1.73m$^2$

| eGFR 30-59 mL/min/1.73m$^2$ | Risk group | | |
|---|---|---|---|
| | **High Risk** (N=68) | **Medium Risk** (N=150) | **Low Risk** (N=311) |
| **Variable** | **Mean±SD; n (%)** | **Mean±SD; n (%)** | **Mean±SD; n (%)** |
| **Demographics** | | | |
| Age (yr.) | 61±14 | 70±13 | 74±10 |
| Sex, male | 55 (81%) | 90 (60%) | 185 (60 %) |
| Charlson index | 2.8±2.1 | 2.7±2.1 | 2.4±2.0 |
| Regional health authority | | | |
| Central | 10 (15%) | 22 (15%) | 39 (13%) |
| South | 58 (85%) | 128 (85%) | 272 (87%) |
| North | 0 (0%) | 0 (0%) | 0 (0%) |
| Residence, rural | 17 (25%) | 36 (24%) | 69 (22%) |
| **Health care utilization over 5 years** | | | |
| Hospital admissions | 5.7±6.3 | 4.8±4.9 | 3.7±3.9 |
| Physician visits | 175.6 ±154.3 | 131.3±120.9 | 109.5±85.3 |
| Drug dispensations | 345±242.9 | 321.9±218.9 | 316.8±211.2 |
| **Health care costs over 5 years** | | | |
| Hospital admission costs | 42424±61936 | 30588±34506 | 25337±33415 |
| Physician visits costs | 12148±10290 | 9177±8258 | 7715±6009 |
| Drug dispensations costs | 22810±21976 | 17142±22043 | 14404±12627 |
| Total costs | 77382±74834 | 56908±47990 | 47457±39533 |

Note: The currency is in Canadian dollar; total cost= hospital admission+ physician+ drug costs over 5 years; eGFR: estimated glomerular filtration rate; SD: standard deviation; yr: year; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation.

**Supplemental Table 5–** Characteristics of patients with eGFR of 15-29 mL/min per 1.73m$^2$

| eGFR 15-29 mL/min/1.73m$^2$ | Risk group | | |
|---|---|---|---|
| | **High-risk** (N=113) | **Medium-risk** (N=86) | **Low-risk** (N=275) |
| **Variable** | **Mean±SD; n (%)** | **Mean±SD; n (%)** | **Mean±SD; n (%)** |
| **Demographics** | | | |
| Age (yr.) | 62± 15 | 72±11 | 75.8±10 |
| Sex, male | 77 (68%) | 53 (62%) | 110 (40%) |
| Charlson index | 3.6±2.3 | 3.4±2.5 | 3.1±2.0 |
| Regional health authority Central South North | 15 (13%) 98 (87%) 0 (0%) | 10 (12%) 76 (88%) 0 (0%) | 39 (14%) 236 (86%) 0 (0%) |
| Residence, rural | 23 (20%) | 23 (27%) | 61 (22%) |
| **Health care utilization over 5 years** | | | |
| Hospital admissions | 7.1±5.4 | 4.5±4.2 | 4.2±3.8 |
| Physician visits | 347.6±269.8 | 164.5±151.1 | 135.2±124.6 |
| Drug dispensations | 302.9±224.4 | 324.1±209.8 | 309.8±191.8 |
| **Health care costs over 5 years** | | | |
| Hospital admission costs | 61125±69446 | 37258±51174 | 31704±37000 |
| Physician visits costs | 22377±16158 | 10429±9772 | 8836±7773 |
| Drug dispensations costs | 22528±18342 | 19631±16540 | 14755±10778 |
| Total costs | 106030±84045 | 67318±62707 | 55296±45043 |

Note: The currency is in Canadian dollar; total cost= hospital admission+ physician+ drug costs over 5 years; eGFR: estimated glomerular filtration rate; SD: standard deviation; yr: year; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation.

**Supplemental Table 6–** Total health care cost on the basis of risk of progression in patients with eGFR of 30-59 mL/min per 1.73m$^2$ and patients with eGFR of 15-29 mL/min per 1.73m$^2$

| Risk group | eGFR 30-59 mL/min/1.73m$^2$ Total health care costs (N=529) | | | |
|---|---|---|---|---|
| | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value |
| Low- risk (N=311) | 65845 (54101, 77588) | Ref | 0.06 | - |
| Medium-risk (N=150) | 67405 (56886, 77925) | 1560 (-13896, 17017) | | 0.84 |
| High-risk (N=68) | 93285 (69363, 117207) | 27440.2 (684, 54195) | | 0.04 |
| Risk group | eGFR 15-29 mL/min/1.73m$^2$ Total health care costs (N=474) | | | |
| | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value |
| Low- risk (N=275) | 78021 (63905, 92137) | Ref | 0.001 | - |
| Medium-risk (N=86) | 114875 (68351, 161399) | 36853 (-12259, 85966) | | 0.14 |
| High-risk (N=113) | 132908 (105232, 160584) | 54886 (22603, 87170) | | <0.001 |

Note: The currency is in Canadian dollar; total cost= hospital admission+ physician+ drug costs over 5 years; marginal cost is the difference of cost between each risk group and risk group (reference group); P-values correspond to generalized linear models; the results of generalized liner regressions are shown after adjustment for age, sex, and Charlson Index (control variables:  risk levels, age, sex, Charlson Index, offset variable: patient time); Overall P-value (a single P-value) represents the trend between three risk groups, whereas multiple P-values (in the column next to overall P-values) compare individual risk categories with reference group (medium-risk vs. low risk and high-risk vs. low risk). eGFR: estimated glomerular filtration rate; CI: confidence interval; Ref: reference group; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation.

**Supplemental Table 7–** Interaction of eGFR range and risk levels with health care utilization (hospital admissions, physician visits, and drug dispensations)

| Main and interaction effects | eGFR 30-59 and 15-29 mL/min/1.73m²  Hospital admissions  (N=1003) | | | eGFR 30-59 and 15-29 mL/min/1.73m²  Physician visits  (N=1003) | | | eGFR 30-59 and 15-29 mL/min/1.73m²  Drug dispensations  (N=1003) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Regression coefficient | Overall P-value | P-value | Regression coefficient | Overall P-value | P-value | Regression coefficient | Overall P-value | P-value |
| **eGFR range (eGFR 15-29 and 30-59 mL/min/1.73m²)** | | | | | | | | | |
| eGFR 15-29 (N=474) | Ref | - | - | Ref | - | - | Ref | - | - |
| eGFR 30-59 (N=529) | -0.07 | | 0.38 | -0.16 | | 0.008 | -0.04 | | 0.58 |
| **Risk level** | | | | | | | | | |
| Low-risk (N=586) | Ref | <0.001 | - | Ref | <0.001 | - | Ref | 0.88 | - |
| Medium-risk (N=236) | 0.20 | | 0.11 | 0.24 | | 0.005 | 0.08 | | 0.46 |
| High-risk (N=181) | 0.58 | | <0.001 | 0.89 | | <0.001 | -0.03 | | 0.77 |
| **eGFR range * Risk level** | | | | | | | | | |
| eGFR 15-29 * Low-risk | Ref | 0.50 | - | Ref | <0.001 | - | Ref | 0.58 | - |
| eGFR 30-59 * Low-risk | Ref | | - | Ref | | - | Ref | | - |
| eGFR 15-29 * Medium-risk | Ref | | - | Ref | | - | Ref | | - |
| eGFR 30-59 * Medium-risk | 0.01 | | 0.92 | -0.18 | | <0.001 | -0.09 | | 0.52 |
| eGFR 15-29 * High-risk | Ref | | - | Ref | | - | Ref | | - |
| eGFR 30-59 * High-risk | -0.18 | | 0.26 | -0.5 | | 0.10 | 0.09 | | 0.53 |

Note: The interaction of eGFR range, risk levels and health care utilization were tested by negative binomial regression. The results are shown after adjustment for age, sex, and Charlson Index, CKD stage, risk level, eGFR range*risk level (control variables=risk levels, age, sex, Charlson Index, eGFR range, eGFR range*risk level, and=offset variable: patient time; Overall P-value (a single P-value) represents the trend between three risk groups, whereas multiple P-values (in the column next to overall P-values) compare individual risk categories with reference group (medium-risk vs. low risk and high-risk vs. low risk). Ref: reference group; eGFR: estimated glomerular filtration rate; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation.

**Supplemental Table 8–** Interaction of eGFR range and risk levels with health care cost (hospital admissions, physician visits, drug dispensations, and total)

| | eGFR 30-59 and 15-29 mL/min/1.73m² Hospital admissions costs (N=1003) | | | eGFR 30-59 and 15-29 mL/min/1.73m² Physician visits costs (N=1003) | | | eGFR 30-59 and 15-29 mL/min/1.73m² Drug dispensations costs (N=1003) | | | eGFR 30-59 and 15-29 mL/min/1.73m² Total costs (N=1003) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Regression coefficient | Overall *P*-value | *P*-value | Regression coefficient | Overall *P*-value | *P*-value | Regression coefficient | Overall *P*-value | *P*-value | Regression coefficient | Overall *P*-value | *P*-value |
| **eGFR range (eGFR 15-29 and 30-59 mL/min/1.73m²)** | | | | | | | | | | | | |
| eGFR 15-29 (N=474) | Ref | - | - | Ref | - | | Ref | | - | Ref | - | - |
| eGFR 30-59 (N=529) | -0.02 | | 0.91 | -0.03 | | 0.81 | -0.16 | - | 0.02 | -0.04 | | 0.77 |
| **Risk levels** | | | | | | | | | | | | |
| Low-risk (N=586) | Ref | - | - | Ref | - | - | Ref | - | - | Ref | - | - |
| Medium-risk (N=236) | 0.50 | | 0.09 | 0.20 | | 0.13 | 0.22 | | 0.01 | 0.42 | | 0.07 |
| High-risk (N=181) | 0.85 | | <0.001 | 0.81 | | <0.001 | 0.27 | | 0.009 | 0.65 | | <0.001 |
| **eGFR range * Risk level** | | | | | | | | | | | | |
| eGFR 15-29 * Low-risk | Ref | 0.09 | - | Ref | 0.001 | - | Ref | 0.54 | - | Ref | 0.08 | - |
| eGFR 30-59 * Low-risk | Ref | | - | Ref | | - | Ref | | - | Ref | | - |
| eGFR 15-29 * Medium-risk | Ref | | - | Ref | | - | Ref | | - | Ref | | - |
| eGFR 30-59 * Medium-risk | -0.50 | | 0.13 | -0.27 | | 0.12 | -0.11 | | 0.38 | -0.44 | | 0.08 |
| eGFR 15-29 * High-risk | Ref | | - | Ref | | - | Ref | | - | Ref | | - |
| eGFR 30-59 * High-risk | -0.60 | | 0.04 | -0.64 | | <0.001 | 0.06 | | 0.68 | -0.40 | | 0.05 |

Note: The interaction of chronic kidney disease stage and risk levels and health care costs were tested by generalized liner model regression. Total costs= cost of hospitalization+ physicians+ drugs. The results are shown after adjustment for age, sex, and Charlson Index, eGFR range, risk level, eGFR range*risk level (control variables=risk levels, age, sex, Charlson Index, eGFR range, eGFR range*risk level, and=offset variable: patient time); Overall P-value (a single P-value) represents the trend between three risk groups, whereas multiple P-values (in the column next to overall P-values) compare individual risk categories with reference group (medium-risk vs. low risk and high-risk vs. low risk). Ref: reference group; eGFR: estimated glomerular filtration rate; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation.

**Supplemental Table 9**–Health care costs (hospital admissions, physician visits, and drug dispensations) on the basis of risk of progression after adjusting for interaction of eGFR range and risk levels

| eGFR range * Risk level | eGFR 30-59 and 15-29 mL/min/1.73m² Hospital admissions costs (N=1003) | | | | eGFR 30-59 and 15-29 mL/min/1.73m² Physician visits costs (N=1003) | | | | eGFR 30-59 and 15-29 mL/min/1.73m² Total costs (N=1003) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5- year cost | Marginal cost | Overall P-value | P-value | 5- year cost | Marginal cost | Overall P-value | P-value | 5- y cost | Marginal cost | Overall P-value | P-value |
| eGFR 30-59 *Low- risk | 41,923 | Ref[1] | 0.09 | - | 10,648 | Ref[1] | 0.001 | - | 14,597 | Ref[1] | 0.54 | - |
| eGFR 30-59 *Medium-risk | 41,629 | -294 | | 0.97 | 9,922 | -725 | | 0.54 | 16,357 | 1,759 | | 0.21 |
| eGFR 30-59 * High- risk | 53,803 | 11,880 | | 0.31 | 12,661 | 2,013 | | 0.22 | 20,124 | 5,526 | | 0.01 |
| eGFR 15-29 *Low- risk | 100,384 | Ref[2] | | - | 10,961 | Ref[2] | | - | 17,152 | Ref[2] | | - |
| eGFR 15-29 *Medium-risk | 70,224 | 27,432 | | 0.15 | 13,412 | 2,451 | | 0.14 | 21,461 | 4,309 | | 0.02 |
| eGFR 15-29 * High- risk | 42,791 | 57,593 | | <0.001 | 24,745 | 13,784 | | <0.001 | 22,270 | 5,118 | | 0.01 |

Note: The cost of health care over 5 years, and marginal costs are presented. Marginal cost is the difference of cost between each risk group and the reference group. The currency is in Canadian dollar. The interaction of eGFR range, risk levels and health care costs were tested by generalized liner model regression. The results are shown after adjustment for age, sex, Charlson Index, eGFR range, risk level, eGFR range*risk level (control variables=risk levels, age, sex, Charlson Index, eGFR range, eGFR range*risk level: and=offset variable: patient time); Overall P-value (a single P-value) represents the trend between three risk groups, whereas multiple P-values (in the column next to overall P-values) compare individual risk categories with reference group (medium-risk vs. low risk and high-risk vs. low risk). Ref: reference group; eGFR: estimated glomerular filtration rate; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation. Ref[1]= eGFR 30-59 *low-risk; Ref [2]= eGFR 15-29*low-risk.

**Supplemental Table 10–** Total health care costs on the basis of risk of progression after adjusting for interaction of eGFR range and risk levels

| eGFR range * Risk level | eGFR 30-59 and 15-29 mL/min/1.73m$^2$ | | | |
| --- | --- | --- | --- | --- |
| | Total costs (N=1003) | | | |
| | 5- year cost | Marginal cost | Overall *P*-value | *P*-value |
| eGFR 30-59 *Low- risk | 70,177 | Ref$^1$ | 0.08 | - |
| eGFR 30-59 *Medium- risk | 68,733 | -1443 | | 0.86 |
| eGFR 30-59 * High- risk | 90553 | 20,376 | | 0.13 |
| eGFR 15-29 *Low- risk | 72,821 | Ref$^2$ | | - |
| eGFR 15-29 *Medium- risk | 111,187 | 38,366 | | 0.11 |
| eGFR 15-29 * High- risk | 140,806 | 67,985 | | <0.001 |

Note: The total cost of health care (hospital admissions, physician visits, drug dispensations) over 5 years, and marginal costs are presented. Marginal cost is the difference of cost between each risk group and the reference group. The currency is in Canadian dollar. The interaction of eGFR range, risk levels and health care costs were tested by generalized liner model regression. The results are shown after adjustment for age, sex, Charlson Index, eGFR range, risk level, eGFR range*risk level (control variables=risk levels, age, sex, Charlson Index, eGFR range, eGFR range*risk level; and=offset variable: patient time; Overall P-value (a single P-value) represents the trend between three risk groups, whereas multiple P-values (in the column next to overall P-values) compare individual risk categories with reference group (medium-risk vs. low risk and high-risk vs. low risk). Ref: reference group; eGFR: estimated glomerular filtration rate; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation. Ref$^1$= eGFR 30-59 *low-risk; Ref $^2$= eGFR 15-29*low-risk.

**Supplemental Table 11–** Health care utilization (hospital admissions, physician visits, and drug dispensations) on the basis of risk of progression after adjusting for location of the regional health authority

| Risk group | eGFR 30-59 mL/min/1.73m² Hospital admissions (N=529) | | | eGFR 30 -59 mL/min/1.73m² Physician visits (N=529) | | | eGFR 30-59 mL/min/1.73m² Drug dispensations (N=529) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Rate ratio (95% CI) | Overall P-value | P-value | Rate ratio (95% CI) | Overall P-value | P-value | Rate ratio (95% CI) | Overall P-value | P-value |
| Low-risk (N=311) | Ref | 0.008 | - | Ref | <0.001 | - | Ref | 0.85 | - |
| Medium- risk (N=150) | 1.2 (1.0, 1.5) | | 0.03 | 1.1 (0.9, 1.2) | | 0.22 | 0.9 (0.8, 1.1) | | 0.90 |
| High-risk (N=68) | 1.5 (1.1, 2.0) | | 0.005 | 1.5 (1.2, 1.8) | | <0.001 | 1.1 (0.8, 1.3) | | 0.61 |
| Risk group | eGFR 15-29 mL/min/1.73m² Hospital admissions (N=474) | | | eGFR 15-29 mL/min/1.73m² Physician visits (N=474) | | | eGFR 15-29 mL/min/1.73m² Drug dispensations (N=474) | | |
| | Rate ratio (95% CI) | Overall P- value | P-value | Rate ratio (95% CI) | Overall P- value | P-value | Rate ratio (95% CI) | Overall P- value | P-value |
| Low-risk (N=275) | Ref | <0.001 | - | Ref | <0.001 | - | Ref | 0.70 | - |
| Medium- risk (N=86) | 1.2 (0.9, 1.5) | | 0.11 | 1.2 (1.0, 1.5) | | 0.02 | 1.1 (0.9, 1.3) | | 0.50 |
| High-risk (N=113) | 1.7 (1.4, 2.1) | | <0.001 | 2.22 (1.9, 2.7) | | <0.001 | 0.9 (0.8, 1.2) | | 0.78 |
| Risk group | eGFR 30-59 and 15-29 mL/min/1.73m² Hospital admissions (N=1003) | | | eGFR 30-59 and 15-29 mL/min/1.73m² Physician visits (N=1003) | | | eGFR 30-59 and 15-29 mL/min/1.73m² Drug dispensations (N=1003) | | |
| | Rate ratio (95% CI) | Overall P- value | P-value | Rate ratio (95% CI) | Overall P- value | P-value | Rate ratio (95% CI) | Overall P- value | P-value |
| Low- risk (N=586) | Ref | <0.001 | - | Ref | <0.001 | - | Ref | 0.94 | - |
| Medium-risk (N=236) | 1.2 (1.0, 1.4) | | 0.009 | 1.1 (1.01, 1.26) | | 0.02 | 1.0 (0.9, 1.1) | | 0.75 |
| High- risk (N=181) | 1.7 (1.4, 2.0) | | <0.001 | 2.1 (1.9, 2.4) | | <0.001 | 1.0 (0.9, 1.1) | | 0.86 |

Note: The ratio of health care utilization is presented. The results of binomial regression are shown after adjustment for age, sex, and Charlson Index, and regional health authority (control variables= risk levels, age, sex, Charlson Index, location of regional health authority (north, center, south); and offset variable=patient time; Overall P-value (a single P-value) represents the trend between three risk groups, whereas multiple P-values (in the column next to overall P-values) compare individual risk categories with reference group (medium-risk vs. low risk and high-risk vs. low risk). Ref: reference group; CI: confidence interval. eGFR: estimated glomerular filtration rate; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation.

**Supplemental Table 12–** Health care cost (hospital admissions, physician visits, and drug dispensations) on the basis of risk of progression after adjusting for location of the regional health authority

| Risk group | eGFR 30-59 mL/min/1.73m² Hospital admissions costs (N=529) | | | | eGFR 30-59 mL/min/1.73m² Physician visits (costs) (N=529) | | | | eGFR 30-59 mL/min/1.73m² Drug dispensations (costs) (N=529) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value |
| **Low-risk** (N=311) | 36730 (27523, 45936) | Ref | 0.19 | - | 10363 (8518, 12207) | Ref | 0.07 | - | 14903 (13664, 16143) | Ref | 0.02 | - |
| **Medium-risk** (N=150) | 40652 (30762, 50543) | 3922 (-9654, 17499) | | 0.57 | 9930 (8677,11183) | -432 (-2585, 1721) | | 0.69 | 16593 (14174, 19012) | 1689 (-996, 4375) | | 0.21 |
| **High-risk** (N=68) | 55917 (35302, 76532) | 19187 (-4018, 42393) | | 0.10 | 13443 (10349, 16536) | 3080 (-355, 6516) | | 0.08 | 20396 (16064, 24727) | 5492 (913, 10071) | | 0.01 |
| **Risk group** | eGFR 15-29 mL/min/1.73m² Hospital admissions costs (N=474) | | | | eGFR 15-29 mL/min/1.73m² Physician visits (costs) (N=474) | | | | eGFR 15-29 mL/min/1.73m² (N=474) Drug dispensations (costs) (N=474) | | | |
| | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value |
| **Low-risk** (N=275) | 47759 (36647, 58870) | Ref | 0.005 | - | 11193 (9494, 12893) | Ref | <0.001 | - | 16753 (14818, 18689) | Ref | 0.02 | - |
| **Medium-risk** (N=86) | 74837 (37009,112664) | 27078 (-12802, 66958) | | 0.18 | 13256 (10441, 16070) | 2062 (-1304, 5430) | | 0.22 | 20618 (17825, 23410) | 3864 (360, 7368) | | 0.03 |
| **High-risk** (N=113) | 91490.16 (62935, 120045) | 43731 (12370, 75092) | | 0.006 | 23350 (19777, 26924) | 12157 (8005, 16309) | | <0.001 | 21872 (18532,25212) | 5119 (1003, 9235) | | 0.14 |
| **Risk group** | eGFR 30-59 and 15-29 mL/min/1.73m² (all cohort) Hospital admissions costs (N=1003) | | | | eGFR 30-59 and 15-29 mL/min/1.73m² (all cohort) Physician visits (costs) (N=1003) | | | | eGFR 30-59 and 15-29 mL/min/1.73m² (all cohort) Drug dispensations (costs) (N=1003) | | | |
| | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value |
| **Low- risk** (N=586) | 42314 (34854, 49755) | Ref | <0.001 | - | 10757 (9445, 12069) | Ref | <0.001 | - | 15751 (14614, 16889) | Ref | <0.001 | - |
| **Medium-risk** (N=236) | 51602 (37751, 65453) | 9287 (-6682, 25257) | | 0.25 | 11134 (9838, 12431) | 377 (-1474,2229) | | 0.68 | 18246 (16248, 20243) | 2494 (191, 4797) | | 0.03 |
| **High- risk** (N=181) | 82576 (62297, 102855) | 40262 (18480,62043) | | <0.001 | 20270 (17570, 22971) | 9513 (6510, 12515) | | <0.001 | 21602 (18936, 24268) | 5851 (2845, 8857) | | <0.001 |

Note: The cost of health care over 5 years, and marginal costs are presented. Marginal cost is the difference of cost between each risk group and the reference group. The currency is in Canadian dollar. The results of generalized liner models are shown after adjustment for age, sex, Charlson Index, and regional health authority (control variables= risk levels, age, sex, Charlson Index, location of regional health authority (north, center, south); and offset variable=patient time). Overall P-value (a single P-value) represents the trend between three risk groups, whereas multiple P-values (in the column next to overall P-values) compare individual risk categories with reference group (medium-risk vs. low risk and high-risk vs. low risk). Ref: reference group; CI: confidence interval. eGFR: estimated glomerular filtration rate; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation.

**Supplemental Table 13–** Total health care cost on the basis of risk of progression after adjusting for the location of the regional health authority

| Risk group | eGFR 30-59 mL/min/1.73m² Total health care costs (N=529) | | | |
|---|---|---|---|---|
| | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value |
| **Low-risk** (N=311) | 65843 (54111,77575) | Ref | 0.06 | - |
| **Medium- risk** (N=150) | 67411 (56897, 77925) | 1568 (-13857, 16993) | | 0.84 |
| **High-risk** (N=68) | 93281(69384, 117178) | 27438 (699, 54177) | | 0.04 |
| Risk group | eGFR 15-29 mL/min/1.73m² Total health care costs (N=474) | | | |
| | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value |
| **Low-risk** (N=275) | 77445 (63980, 90911) | Ref | <0.001 | - |
| **Medium- risk** (N=86) | 112868 (68153, 157582) | 35422 (-11954, 82799) | | 0.14 |
| **High-risk** (N=113) | 134880 (105596, 164166) | 57435 (24361, 90509) | | <0.001 |
| Risk group | eGFR 15-29 and 30-59 mL/min/1.73m² Total health care cost (N=1003) | | | |
| | 5- year cost (95% CI) | Marginal cost (95% CI) | Overall *P*-value | *P*-value |
| **Low- risk** (N=586) | 71291 (62189, 80393) | Ref | <0.001 | |
| **Medium-risk** (N=236) | 83756 (66455,101057) | 12465 (-7357, 32287) | | 0.21 |
| **High- risk** (N=181) | 122420 (101991, 142849) | 51129 (28709,73549) | | <0.001 |

Note: The total cost of health care (hospital admission physician+ drugs) over 5 years, and marginal costs are presented. Marginal cost is the difference of cost between each risk group and the reference group. The currency is in Canadian dollar. The results of generalized liner models are shown after adjustment for age, sex, Charlson Index, and regional health authority (control variables= risk levels, age, sex, Charlson Index, location of regional health authority (north, center, south) and offset variable=patient time). Overall P-value (a single P-value) represents the trend between three risk groups, whereas multiple P-values (in the column next to overall P-values) compare individual risk categories with reference group (medium-risk vs. low risk and high-risk vs. low risk). Ref: reference group; CI: confidence interval. eGFR: estimated glomerular filtration rate; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation.

**Supplemental Table 14 –**Additional negative binomial regression results for the health care utilization (hospital admissions [inpatient and outpatient], physician visits, and drug dispensations) on the basis of risk of progression

| Risk group | eGFR 30-59 mL/min/1.73m² Hospital admissions (N=529) | | | | eGFR 30-59 mL/min/1.73m² Physician visits (N=529) | | | | eGFR 30-59 mL/min/1.73m² Drug dispensations (N=529) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unadjusted | | Adjusted | | Unadjusted | | Adjusted | | Unadjusted | | Adjusted | |
| | Regression Coefficient (*P*-value) | Estimated value | Regression Coefficient (*P*-value) | Estimated value | Regression Coefficient (*P*-value) | Estimated value | Regression Coefficient (*P*-value) | Estimated value | Regression Coefficient (*P*-value) | Estimated value | Regression Coefficient (*P*-value) | Estimated value |
| Low-risk (N=311) | Ref (.) | 4.4 | Ref (.) | 4.1 | Ref (.) | 131.4 | Ref (.) | 124.9 | Ref (.) | 322.5 | Ref (.) | 321.4 |
| Medium-risk (N=150) | 0.21 (0.06) | 5.4 | 0.22* (0.04) | 5.1 | 0.08 (0. 3) | 141.8 | 0.08 (0.23) | 135.9 | -0.01 (0.96) | 321.1 | -0.01 (0.91) | 318.3 |
| High-risk (N=68) | 0.48** (0.001) | 7.1 | 0.40** (0.006) | 6.1 | 0.33*** (<0.001) | 182.8 | 0.42*** (<0.001) | 189.6 | 0.06 (0.59) | 342.6 | 0.06 (0.62) | 341.3 |

| Risk group | eGFR 15-29 mL/min/1.73m² Hospital admissions (N=474) | | | | eGFR 15-29 mL/min/1.73m² Physician visits (N=474) | | | | eGFR 15-29 mL/min/1.73m² Drug dispensations (N=474) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unadjusted | | Adjusted | | Unadjusted | | Adjusted | | Unadjusted | | Adjusted | |
| | Regression Coefficient (*P*-value) | Estimated value | Regression Coefficient (*P* -value) | Estimated value | Regression Coefficient (*P*-value) | Estimated value | Regression Coefficient (*P* -value) | Estimated value | Regression Coefficient (*P*-value) | Estimated value | Regression Coefficient (*P* -value) | Estimated value |
| Low-risk (N=275) | Ref (.) | 4.8 | Ref (.) | 4.6 | Ref (.) | 155.7 | Ref (.) | 154.6 | Ref (.) | 321.4 | Ref (.) | 319.7 |
| Medium-risk (N=86) | 0.17 (0.15) | 5.7 | 0.18 (0.12) | 5.5 | 0.25* (0.007) | 199.1 | 0.22* (0.01) | 194.0 | 0.07 (0.51) | 344.6 | 0.07 (0.51) | 343.3 |
| High-risk (N=113) | 0.54*** (<0.001) | 8.1 | 0.54*** (<0.001) | 7.9 | 0.84*** (<0.001) | 362.1 | 0.80*** (<0.001) | 344.5 | -0.04 (0.68) | 308.9 | -0.03 (0.78) | 310.0 |

Note: average number of utilizations are shown; the results of binomial regression are shown before and after adjustment for age, sex, and Charlson Index (control variables: risk levels, age, sex, Charlson Index; and offset variable: patient time); *P*-values are shown in parentheses; * *P*-value<0.05; ** *P*-value<0.01, *** *P*-value<0.001; Ref: reference group; eGFR: estimated glomerular filtration rate; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation.

**Supplemental Table 15**–Additional generalized liner model results for the cost of hospital admissions (inpatient and outpatient), physician visits, and drug dispensations on the basis of risk of progression

| Risk group | eGFR 30-59 mL/min/1.73m² Hospital admissions (costs) (N=529) | | eGFR 30-59 mL/min/1.73m² Physician visits (costs) (N=529) | | eGFR 30-59 mL/min/1.73m² Drug dispensations (costs) (N=529) | |
|---|---|---|---|---|---|---|
| | Unadjusted | Adjusted | Unadjusted | Adjusted | Unadjusted | Adjusted |
| | Regression Coefficient (*P*-value) | Regression Coefficient (*P*-value) | Regression Coefficient (*P*-value) | Regression Coefficient (*P*-value) | Regression Coefficient (*P*-value) | Regression Coefficient (*P*-value) |
| Low-risk (N=311) | Ref (.) | Ref (.) | Ref (.) | Ref (.) | Ref (.) | Ref (.) |
| Medium-risk (N=150) | -0.06 (0.76) | 0.10 (0.58) | -0.04 (0.72) | -0.04 (0.70) | 0.17 (0.09) | 0.11 (0.20) |
| High-risk (N=68) | 0.24 (0.36) | 0.42 (0.08) | 0.19 (0.17) | 0.26 (0.07) | 0.42** (0.001) | 0.31** (0.008) |
| Risk group | eGFR 15-29 mL/min/1.73m² Hospital admissions (costs) (N=474) | | eGFR 15-29 mL/min/1.73m² Physician visits (costs) (N=474) | | eGFR 15-29 mL/min/1.73m² Drug dispensations (costs) (N=474) | |
| | Unadjusted | Adjusted | Unadjusted | Adjusted | Unadjusted | Adjusted |
| | Regression Coefficient (*P*-value) | Regression Coefficient (*P* -value) | Regression Coefficient (*P*-value) | Regression Coefficient (*P* -value) | Regression Coefficient (*P*-value) | Regression Coefficient (*P* -value) |
| Low-risk (N=275) | Ref (.) | Ref (.) | Ref (.) | Ref (.) | Ref (.) | Ref (.) |
| Medium-risk (N=86) | 0.61 (0.16) | 0.46 (0.12) | 0.21 (0.17) | 0.18 (0.18) | 0.26** (0.004) | 0.21* (0.03) |
| High-risk (N=113) | 0.44* (0.02) | 0.61** (0.003) | 0.76*** (<0.001) | 0.74*** (<0.001) | 0.40*** (<0.001) | 0.27* (0.01) |

Note: regression coefficient of hospital admissions, physician, drug costs after 5 years are shown. The results are shown before and after adjustment for age, sex, and Charlson Index (control variables=risk levels, age, sex, Charlson Index; and offset variable=patient time). *P*-values are shown in parentheses. * *P*-value<0.05; ** *P*-value<0.01, *** *P*-value<0.001; Ref: reference group. eGFR: estimated glomerular filtration rate; risk: risk of chronic kidney disease progression to kidney failure based on the Kidney Failure Risk Equation.