**Supplements**

Table S1 – ICD 9 and ICD 10 codes used for comorbidities and additional procedures performed.

Diagnosis/Procedure

|  |  |
| --- | --- |
| Valve replacement/procedure other than aortic valve | ICD 10 codes –  02R907Z, 02R908Z, 02R90JZ, 02R90KZ, 02RD07Z, 02RD08Z, 02RD0JZ, 02RD0KZ,02RG07Z, 02RG08Z, 02RG0JZ, 02RG0KZ, 02RH07Z, 02RH08Z,  02RH0JZ, 02RH0KZ, 02RJ07Z, 02RJ08Z, 02RJ0JZ, 02RJ0KZ  ICD 9 codes –  3523,3524,3525,3526,3527,3528,3531,3532,3533 |
| Coronary artery bypass surgery | ICD 10 codes –  02R907Z,02R908Z,02R90JZ,02R90KZ,02RD07Z,  02RD08Z,02RD0JZ,02RD0KZ,  02RG07Z,02RG08Z, 02RG0JZ, 02RG0KZ, 02RH07Z,  02RH08Z,02RH0JZ, 02RH0KZ,  02RJ07Z,02RJ08Z,02RJ0JZ, 02RJ0KZ  ICD 9 codes –  3610, 3611, 3612, 3613, 3614, 3615, 3616, 3617, 3619, 362 |
| Prior Coronary artery bypass | ICD 10 codes –  Z951  ICD 9 codes –  V4581 |
| Prior Percutaneous coronary intervention | ICD 10 codes –  Z9861, I955  ICD 9 codes –  V4582 |
| Coronary intervention using stent placement | ICD 10 codes –  0270346,0272346,027034Z,027234Z,0270356,0272356,027035Z,027235Z, 0270366,0272366,027036Z,027236Z,0270376,0272376,027037Z,027237Z,027134Z, 027334Z,0271356,0273356,027135Z,027335Z,027135Z,0271366,027136Z,027336Z, 0271346,0273346,0271376, 0273376,027137Z,027337Z  02703D6,02723D6,02703DZ,02723DZ,02703E6,02723E6,02703EZ,02723EZ,  02703F6,02723F6,02703FZ,02723FZ,02703G6,02723G6,02703GZ,02723GZ,02713D6,  02733D6,02713DZ,02733DZ,02713E6,02733E6,02713EZ,02733EZ,02713F6,02733F6,  02713FZ,02733FZ,02713G6,02733G6,02713GZ,02733GZ |
| Transcatheter mitral repair/replacement | ICD 10 codes –  02UG3JZ |

Table S2 – ICD 9 and ICD 10 codes used for outcomes assessed.

Outcome

|  |  |
| --- | --- |
| Pacemaker implantation | ICD 10 codes –  0JH836Z, 0JH636Z, 02HK3JZ, 02HK4JZ, 0JH635Z, 0JH835Z  ICD 9 codes –  0050, 3780, 3781, 3782, 3783 |
| Stroke | ICD 10 codes –  I6300, I63011, I63012, I63013, I63019, I6302, I63031, I63032  , I63033, I63039, I6309, I6310, I63111, I63112, I63113, I63119, I6312  , I63131, I63132, I63133, I63139, I6319, I6320, I63211, I63212, I63213  , I63219, I6322, I63231, I63232, I63233, I63239, I6329, I6330, I63311  , I63312, I63313, I63319, I63321, I63322, I63323, I63329, I63331, I63332  , I63333, I63339, I63341, I63342, I63343, I63349, I6339, I6340, I63411  , I63412, I63413, I63419, I63421, I63422, I63423, I63429, I63431, I63432  , I63433, I63439, I63441, I63442, I63443, I63449, I6349, I6350, I63511  , I63512, I63513, I63519, I63521, I63522, I63523, I63529, I63531, I63532  , I63533, I63539, I63541, I63542, I63543, I63549, I6359, I636, I638  , I6300, I63011, I63012, G9781, G9782, I97810, I97811, I97820, I9782  ICD 9 codes –  43401,43411,43491,43301,43311,43321,43331,43381,43391,  4350,436,99701,99702 |
| Bleeding | ICD 10 codes –  D62, I97418,I9742,D62,I97618,I9762,I97620,I97621,I97638  30230H1,30230N0,30230N1,30230P0,30230P1,30233H0,  30233H1,  30233N0,30233N1,30233P0,30233P1,30240H0,30240H1,  30240N0,30240N1,  30240P0,30240P1,30243H0,30243H1,30243N0,30243N1,  30243P0,30243P1,  30250H0,30250H1,30250N0,30250N1,30250P0,30250P1,  30253H0,30253H1,  30253N0,30253N1,30253P0,30253P1,30260H0,30260H1,  30260N0,30260N1,  30260P0,30260P1,30263H0,30263H1,30263N0,30263N1,  30263P0,30263P1  ICD 9 codes –  2851, 99811,99812 ,9900,9902 ,9903 ,9904 |
| Acute kidney injury | ICD 10 codes –  N170,N171,N172,N178,N179  ICD 9 codes –  5845, 5846,5847,5848,5849 |
| Blood transfusion | ICD 10 codes –  D62, I97418,I9742,D62,I97618,I9762,I97620,I97621,I97638  30230H1,30230N0,30230N1,30230P0,30230P1,30233H0,  30233H1,  30233N0,30233N1,30233P0,30233P1,30240H0,30240H1,  30240N0,30240N1,  30240P0,30240P1,30243H0,30243H1,30243N0,30243N1,  30243P0,30243P1,  30250H0,30250H1,30250N0,30250N1,30250P0,30250P1,  30253H0,30253H1,  30253N0,30253N1,30253P0,30253P1,30260H0,30260H1,  30260N0,30260N1,  30260P0,30260P1,30263H0,30263H1,30263N0,30263N1,  30263P0,30263P1  ICD 9 codes –  9900,9902 ,9903 ,9904 |

Table S3 – Variables used to calculate propensity score for SAVR in women.

|  |
| --- |
| Age  National quartile of Patient’s Zip code median income  Race  Primary payer/insurance    **Elixhauser comorbidities**  Congestive heart failure  Cardiac arrhythmia  Pulmonary circulation disorder  Peripheral vascular disease  Hypertension, uncomplicated  Hypertension, complicated  Paralysis  Other neurological disease  Chronic pulmonary disease  Diabetes, uncomplicated  Diabetes, complicated  Renal failure  Liver disease  Weighted elixhauser comorbidity summary index  Probability sample weight of the visit  Hospital ID variable |

Table S4 – Baseline characteristics of patients undergoing surgical aortic valve replacement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Male | Female | P value |
| Total |  | 272577 (261742-283413) | 158767 (152179-165354) |  |
|  | Proportion (%) | 63.19 (62.83-63.56) | 36.81 (36.44-37.17) |  |
| Age (mean) |  | 73.24 (73.15-73.34) | 74.3 (74.16-74.44) | <0.001 |
| Race |  |  |  | <0.001 |
|  | White | 63.83 (63.43-64.23) | 36.17 (35.77-36.57) |  |
|  | Non-White | 58.91 (57.94-59.87) | 41.09 (40.13-42.06) |  |
| Concomitant Surgery | |  |  |  |
|  | CABG | 47.54 (46.91-48.18) | 32.83 (32.14-33.53) | <0.001 |
|  | Non-AV | 3.27 (3.05-3.5) | 5.08 (4.79-5.38) | <0.001 |
| Median Household Income National Quartile for Patient ZIP Code (%) | | |  |  |
|  | Quartile |  |  | <0.001 |
|  | 1 | 20.77 (20.02-21.54) | 22.6 (21.75-23.47) |  |
|  | 2 | 26.07 (25.3-26.86) | 26.92 (26.07-27.79) |  |
|  | 3 | 26.87 (26.24-27.52) | 25.99 (25.24-26.74) |  |
|  | 4 | 26.28 (25.03-27.58) | 24.49 (23.12-25.92) |  |
| Primary Payer |  |  |  | <0.001 |
|  | Medicare | 77.09 (76.57-77.61) | 82.75 (82.17-83.32) |  |
|  | Medicaid | 1.52 (1.38-1.67) | 2.04 (1.86-2.24) |  |
|  | Private | 18.77 (18.33-19.21) | 13.61 (13.12-14.12) |  |
|  | Self-pay | 2.62 (2.41-2.85) | 1.59 (1.4-1.8) |  |
| Comorbidities |  |  |  |  |
|  | CHF | 36.92 (36.14-37.71) | 38.67 (37.7-39.66) | <0.001 |
|  | Cardiac arrhythmias | 63.75 (63.19-64.31) | 59.86 (59.11-60.61) | <0.001 |
|  | Pulm circulation disorders | 11.69 (11.3-12.09) | 14.41 (13.88-14.96) | <0.001 |
|  | PVD | 22.23 (21.69-22.78) | 18.39 (17.78-19.02) | <0.001 |
|  | uncomp HTN | 56.32 (55.74-56.89) | 61.23 (60.48-61.96) | <0.001 |
|  | comp HTN | 23.16 (22.62-23.71) | 18.68 (18.11-19.25) | <0.001 |
|  | Paralysis | 1.04 (0.96-1.14) | 1.27 (1.16-1.4) | 0.0015 |
|  | Other neurological disorders | 6.84 (6.59-7.1) | 6.6 (6.31-6.91) | 0.1645 |
|  | Chronic pulm disease | 26.99 (26.47-27.51) | 30.49 (29.83-31.16) | <0.001 |
|  | uncomp DM | 25.24 (24.74-25.74) | 24.86 (24.27-25.45) | 0.2114 |
|  | comp DM | 9.07 (8.68-9.47) | 8.07 (7.66-8.5) | <0.001 |
|  | Renal failure | 19.98 (19.51-20.46) | 15.38 (14.87-15.91) | <0.001 |
|  | Liver disease | 2.97 (2.82-3.13) | 3.02 (2.83-3.22) | 0.7021 |
|  | Prior PCI | 8.39 (8.08-8.72) | 5.24 (4.95-5.55) | <0.001 |
|  | Prior CABG | 6.29 (6.03-6.56) | 2.76 (2.56-2.96) | <0.001 |
|  | Elixsum (mean) | 5.22 (5.18-5.26) | 5.43 (5.39-5.48) | <0.001 |

Table S5: Baseline characteristics of patients undergoing transcatheter aortic valve replacement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Male | Female | P value |
| Total |  | 101339 (97567-105111) | 87798 (84594-91003) |  |
|  | Proportion (%) | 53.58 (53.05-54.1) | 46.42 (45.9-46.94) |  |
| Age (mean) |  | 80.51 (80.4-80.63) | 81.21 (81.09-81.33) | <0.001 |
| Race |  |  |  | <0.001 |
|  | White | 54.25 (53.67-54.82) | 45.75 (45.18-46.33) |  |
|  | Non-White | 48.17 (46.67-49.68) | 51.83 (50.32-53.33) |  |
| Median Household Income National Quartile for Patient’s ZIP Code (%) | | |  |  |
|  | Quartile |  |  | <0.001 |
|  | 1 | 20.32 (19.55-21.11) | 21.86 (20.99-22.75) |  |
|  | 2 | 25.72 (24.9-26.56) | 25.46 (24.62-26.33) |  |
|  | 3 | 27 (26.23-27.78) | 25.7 (24.92-26.48) |  |
|  | 4 | 26.96 (25.74-28.21) | 26.98 (25.72-28.28) |  |
| Primary Payer |  |  |  | <0.001 |
|  | Medicare | 90.19 (89.61-90.74) | 93.18 (92.65-93.68) |  |
|  | Medicaid | 0.63 (0.52-0.75) | 0.88 (0.74-1.03) |  |
|  | Private | 6.57 (6.13-7.05) | 5.05 (4.61-5.54) |  |
|  | Self-pay | 2.61 (2.31-2.94) | 0.88 (0.72-1.08) |  |
| Comorbidities |  |  |  |  |
|  | CHF | 74.11 (73.04-75.16) | 73.38 (72.24-74.48) | 0.104 |
|  | Cardiac arrhythmias | 61.66 (60.91-62.4) | 55.79 (54.97-56.6) | <0.001 |
|  | Pulm circulation disorders | 16.14 (15.53-16.76) | 19.63 (18.92-20.36) | <0.001 |
|  | PVD | 27.64 (26.86-28.44) | 22.3 (21.57-23.04) | <0.001 |
|  | uncomp HTN | 31.69 (30.67-32.73) | 37.74 (36.53-38.96) | <0.001 |
|  | comp HTN | 56.71 (55.53-57.87) | 51.06 (49.72-52.41) | <0.001 |
|  | Paralysis | 0.99 (0.85-1.14) | 1.25 (1.1-1.43) | 0.0165 |
|  | Other neurological disorders | 5.7 (5.37-6.04) | 5.09 (4.77-5.42) | 0.0097 |
|  | Chronic pulm disease | 33.79 (32.98-34.61) | 34.8 (33.94-35.67) | 0.0399 |
|  | uncomp DM | 21.69 (21.02-22.37) | 20.63 (19.95-21.32) | 0.0128 |
|  | comp DM | 17.33 (16.66-18.03) | 14.29 (13.68-14.93) | <0.001 |
|  | Renal failure | 40.72 (39.89-41.57) | 31.16 (30.24-32.08) | <0.001 |
|  | Liver disease | 3.12 (2.87-3.39) | 2.86 (2.63-3.12) | 0.1473 |
|  | Prior PCI | 9.01 (8.42-9.63) | 6.75 (6.26-7.28) | <0.001 |
|  | Prior CABG | 27.5 (26.77-28.23) | 9.75 (9.3-10.23) | <0.001 |
|  | Elixsum (mean) | 5.77 (5.74-5.81) | 5.82 (5.78-5.86) | 0.036 |

Figure S1 – Standardized percentage difference between the variables before and after matching for surgical versus transcatheter aortic valve replacement

Table

Description automatically generated