|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Total Number** | **Not Referred (% from total)** | **Referred (% from total)** | **p-value** |
| 14663 | 12564 (85.7%) | 2099 (14.3%) | - |
| **Gender** | MaleFemale | 369710966 | 2748 (74.3%)9816 (89.5%) | 949 (25.7%)1150 (10.5%) | **<0.001** |
| **Age** | <3535-5050-6565-80>80 | 2388482349592084409 | 2173 (91.0%)4263 (88.4%)4096 (82.6%)1704 (81.8%)328 (80.2%) | 215 (9.0%)560 (11.6%)863 (17.4%)380 (18.2%)81 (19.8%) | **<0.001** |
| **Race** | WhiteBlackHispanic\*AsianIndianPacific Unknown | 90834691105793435231 | 7716 (84.9%)4094 (87.3%)8 (80.0%)483 (83.4%)33 (97.1%)29 (82.9%)201 (87.0%) | 1367 (15.1%)597 (12.7%)2 (20.0%)96 (16.6%)1 (2.9%)6 (17.1%)30 (13.0%) | **0.002** |
| **UA RBC** | 3-1920-4950-99>99 | 12574821562706 | 10995 (87.4%)599 (73.0%)444 (79.0%)526 (74.5%) | 1579 (12.6%)222 (27.0%)118 (21.0%)180 (25.5%) | **<0.001** |
| **DM** | YesNo | 445510208 | 3787 (85.0%)8777 (86.0%) | 668 (15.0%)1431 (14.0%) |  0.121 |
| **HTN** | YesNo | 65328131 | 5504 (84.3%)7061 (86.8%) | 1028 (15.7%)1071 (13.2%) | **<0.001** |
| **Obesity** | YesNo | 90713756 | 783 (86.3%)11781 (85.6%) | 124 (13.7%)1975 (14.4%) |  0.568 |
| **Tobacco use** | NeverFormerCurrent | 964128102212 | 8401 (87.1%)2308 (82.1%)1855 (83.9%) | 1240 (12.9%)502 (17.9%)357 (16.1%) | **<0.001** |
| **Repeat UA** | YesNo | 81486515 | 6497 (79.7%)6067 (93.1%) | 1651 (20.3%)448 (6.9%) | **<0.001** |
| **Imaging**  | YesNo | 52399424 | 3582 (68.4%)8982 (95.3%) | 1657 (31.6%)442 (4.7%) | **<0.001** |
| **Cystoscopy** | YesNo | 89713766 | 0 (0.0%)12564 (91.3%) | 897 (100%)1202 (8.7%) | **<0.001** |
| **Complete Evaluation** | YesNo | 80113862 | 1296 (0%) 1256 (90.6%) | 801 (100%)1298 (9.4%) | **<0.001** |
| **UTI** | YesNo | 325111412 | 2448 (75.3%)10116 (88.6%) | 803 (24.7%)1296 (11.4%) | **<0.001** |

**Supplementary Table 1. Demographic Variables and Stratifications According to Urology Referral Including Patients Initially Presenting with Urinary Tract Infections**

UA: urinalysis; RBC: red blood cells; DM: diabetes mellitus; HTN: hypertension; UTI: urinary tract infection

\*Most Hispanic patients are identified as white

**Supplementary Table 2. Predictors of Urology Referral on Univariable and Multivariable Regression Analyses Including Patients Initially Presenting with Urinary Tract Infections**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **UVA****OR (95% CI)** | **UVA****p-value** | **MVA****OR (95% CI)** | **MVA****p-value** |
| **Gender** | Female | 0.34 (0.31-0.37) | **<0.001** | 0.355 (0.32-3.79) | **<0.001** |
| **Age** | <3535-5050-6565-80>80 | Ref1.33 (1.13-1.57)2.13 (1.82-2.49)2.25 (1.89-2.70)2.50 (1.89-3.31) | Ref **0.001****<0.001****<0.001****<0.001** | Ref1.33 (1.12-1.59)2.03 (1.71-2.42)2.29 (1.88-2.80)2.42 (1.78-3.28) | Ref**<0.001****<0.001****<0.001****<0.001** |
| **Race** | WhiteBlackHispanic\*AsianIndianPacific IslanderUnknown | Ref0.82 (0.74-0.91)1.41 (0.30-6.65)1.12 (0.90-1.41)0.17 (0.02-1.25)1.17 (0.48-2.82)0.84 (0.57-1.24) | Ref**<0.001** 0.663 0.320 0.082 0.730 0.386 | Ref0.74 (0.66-0.83)1.22 (0.24-6.16)1.08 (0.85-1.38)0.17 (0.02-1.27)0.98 (0.39-2.48)0.76 (0.51-1.14) | Ref 0.189 0.897 0.575 0.139 0.153 0.627 |
| **UA RBC** | 3-1920-4950-99>99 | Ref2.58 (2.19-3.04)1.85 (1.50-2.28)2.38 (2.00-2.85) | Ref**<0.001****<0.001****<0.001** | Ref2.77 (2.33-3.30)2.22 (1.77-2.77)3.11 (2.57-3.78) | Ref**<0.001****<0.001****<0.001** |
| **DM** | Yes | 1.08 (0.98-1.20) |  0.121 | - | - |
| **HTN** | Yes | 1.23 (1.12-1.35) | **<0.001** | 1.16 (1.04-1.29) |  **0.007** |
| **Obesity** | Yes | 0.95 (0.78-1.15) |  0.568 | - | - |
| **Tobacco** | NeverFormerCurrent | Ref1.47 (1.32-1.65)1.30 (1.15-1.48) | Ref**<0.001****<0.001** | Ref1.00 (0.88-1.14)1.06 (0.92-1.22) | Ref 0.456 0.538 |
| **Repeat UA** | Yes | 3.44 (3.08-3.84) | **<0.001** | 3.38 (3.02-3.79) | **<0.001** |

UVA: univariable analysis; MVA: multivariable analysis; OR: odds ratio; UA: urinalysis; RBC: red blood cells; DM: diabetes mellitus; HTN: hypertension; UTI: urinary tract infection

\*Most Hispanic patients are identified as white

**Supplementary Table 3.** **Predictors of Complete Evaluation on Univariable and Multivariable Regression Analyses Including Patients Initially Presenting with Urinary Tract Infections**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **UVA****OR (95% CI)** | **UVA****p-value** | **MVA****OR (95% CI)** | **MVA****p-value** |
| **Gender** | Female | 0.44 (0.38-0.50) | **<0.001** | 0.51 (0.43-0.59) | **<0.001** |
| **Age** | <3535-5050-6565-80>80 | Ref1.61 (1.21-2.14)2.59 (1.98-3.39)2.95 (2.20-3.96)3.24 (2.11-4.98) | Ref **0.001****<0.001****<0.001****<0.001** | Ref1.57 (1.18-2.10)2.34 (1.76-3.11)2.75 (2.00-3.78)2.85 (1.81-4.48) | Ref **0.002****<0.001****<0.001****<0.001** |
| **Race** | WhiteBlackHispanic\*AsianIndianPacific IslanderUnknown | Ref0.73 (0.62-0.86)1.78 (0.23-14.04)1.41 (1.03-1.93)0.00 (0.00-.)2.06 (0.73-5.86)0.72 (0.38-1.37) | Ref**<0.001** 0.586 **0.030** 0.998 0.175 0.320 | Ref0.64 (0.54-0.76)1.75 (0.21-14.43)1.40 (1.02-1.94)0.00 (0.00-.)1.85 (0.63-5.50)0.71 (0.37-1.36) | Ref**<0.001** 0.604 **0.040** 0.998 0.266 0.302 |
| **UA RBC** | 3-1920-4950-99>99 | Ref2.49 (1.97-3.15)1.72 (1.25-2.36)2.41 (1.87-3.10) | Ref**<0.001** **0.001****<0.001** | Ref2.54 (2.00-3.24)1.98 (1.43-2.76)2.97 (2.28-3.88) | Ref**<0.001****<0.001****<0.001** |
| **DM** | Yes | 1.02 (0.87-1.19) |  0.835 | - | - |
| **HTN** | Yes | 1.41 (1.22-1.62) | **<0.001** | 0.99 (0.84-1.16) |  0.870 |
| **Obesity** | Yes | 1.27 (0.97-1.66) |  0.085 | - | - |
| **Tobacco** | NeverFormerCurrent | Ref1.50 (1.26-1.78)1.28 (1.05-1.56) | Ref**<0.001** **0.015** | Ref1.10 (0.91-1.32)1.17 (0.95-1.45) | Ref 0.322 0.142 |
| **Repeat UA** | Yes | 4.37 (3.61-5.28) | **<0.001** | 4.10 (3.38-4.97) | **<0.001** |

UVA: univariable analysis; MVA: multivariable analysis; OR: odds ratio; UA: urinalysis; RBC: red blood cells; DM: diabetes mellitus; HTN: hypertension; UTI: urinary tract infection

\*Most Hispanic patients are identified as white