# Kidney and Urologic Diseases Statistics for the United States

#### National Kidney and Urologic Diseases Information Clearinghouse



NATIONAL INSTITUTES OF HEALTH



U.S. Department of Health and Human Services

## **Kidney Problems**

### **Kidney Disease**

**Prevalence** (1999–2004): An estimated 7.69 percent of adults aged 20 or older (15.5 million adults) have physiological evidence of chronic kidney disease determined as a moderately or severely reduced glomerular filtration rate.<sup>1</sup>

## Hemolytic Uremic Syndrome, Postdiarrheal

#### Incidence

2005: 221 cases in 34 states<sup>2</sup>
2004: 200 cases in 30 states<sup>3</sup>
2003: 178 cases in 32 states<sup>4</sup>
2002: 216 cases in 33 states<sup>5</sup>
2001: 202 cases in 28 states<sup>6</sup>
2000: 249 cases in 24 states<sup>7</sup>
1999: 181 cases in 26 states<sup>7</sup>
1998: 119 cases in 17 states<sup>7</sup>

## **End-stage Renal Disease (ESRD)**

**Prevalence** (2005): 485,012 U.S. residents were under treatment as of the end of the calendar year.<sup>8</sup>

#### **Resulting from these primary diseases:**

Diabetes: 179,157 Hypertension: 117,438 Glomerulonephritis: 78,345 Cystic kidney: 22,458 All other: 87,614 **Incidence** (2005): 106,912 U.S. residents were new beneficiaries of treatment.<sup>8</sup>

#### **Resulting from these primary diseases:**

Diabetes: 46,851 Hypertension: 28,622 Glomerulonephritis: 8,100 Cystic kidney: 2,495 All other: 20,844

Mortality (2005): Among U.S. residents with ESRD, there were 167.3 deaths per 1,000 patient years.<sup>8</sup> There were 85,790 deaths in all patients undergoing ESRD treatment.<sup>8</sup>

Costs for the ESRD program (2005): \$32 billion in public and private spending<sup>8</sup>

#### **ESRD** treatment:

Dialysis treatment (2005): 341,319 U.S. residents with ESRD received dialysis.<sup>8</sup> In-center hemodialysis: 312,057 Home hemodialysis: 2,105 Peritoneal dialysis: 25,895 CAPD\* 10,732 CCPD\*\* 15,163 Other PD\*\*\* 37

\*CAPD=continuous ambulatory peritoneal dialysis \*\*CCPD=continuous cycler-assisted peritoneal dialysis

\*\*\*PD=peritoneal dialysis

**Uncertain dialysis: 1,225** 

#### Number of kidney transplants performed8:

**2005:** 17,429 **2000:** 14,592 **1995:** 12,141 **1990:** 10,021 **1985:** 7,501 **1980:** 3,784 Source of organ donations for kidney transplants performed (2005)8:

From deceased donor: 10,811 From living related donor: 4,195 From spouse/life partner: 835 From living unrelated donor: 1,495

Paired exchange: 25

Living-deceased exchange: 12 Unknown relationship: 54

## Number of people awaiting transplants

(December 21, 2007)<sup>9</sup>: **Kidney (only):** 74,182

**Kidney and pancreas: 2,292** 

**Dialysis survival** (probability of patients surviving, from day 91 of ESRD, unadjusted)<sup>8</sup>:

1 year (2004–2005): 78.3 2 years (2003–2005): 63.6 5 years (2000–2005): 32.1 10 years (1995–2005): 10.3

Patient survival following deceased-donor transplant (probability of recipients surviving, from day 1 of transplantation, unadjusted)<sup>8</sup>:

1 year (2004–2005): 94.6 2 years (2003–2005): 91.2 5 years (2000–2005): 80.3 10 years (1995–2005): 61.2

Patient survival following living-donor transplant (probability of recipients surviving, from day 1 of transplantation, unadjusted)<sup>8</sup>:

1 year (2004–2005): 97.9 2 years (2003–2005): 96.6 5 years (2000–2005): 89.5 10 years (1995–2005): 75.1

Graft survival following deceased-donor

**transplant** (probability of transplanted kidney surviving, from day 1 of transplantation, unadjusted)<sup>8</sup>:

1 year (2004–2005): 89.6 2 years (2003–2005): 83.7 5 years (2000–2005): 66.6 10 years (1995–2005): 41.7 **Graft survival following living-donor transplant** (probability of transplanted kidney surviving, from day 1 of transplantation, unadjusted)<sup>8</sup>:

1 year (2004–2005): 95.1 2 years (2003–2005): 91.9 5 years (2000–2005): 79.4 10 years (1995–2005): 55.2

## **Urologic Problems**

### **Interstitial Cystitis**

Prevalence (2004): Of 1,218 women in a study group, 154 (12.6 percent) had likely interstitial cystitis, based on results of the Pelvic Pain and Urgency/Frequency Patient Symptom Scale. In the same study group, only 13 (1.1 percent) were classified as having interstitial cystitis by the O'Leary-Sant IC Symptom Index and Problem Index. The authors of the published research article suggest that the true prevalence lies somewhere between these two extremes.<sup>10</sup>

(1988–1994): More than 1.3 million (1,218,631 women and 82,832 men) adults aged 20 or older self-reported having been diagnosed with interstitial cystitis.<sup>11</sup>

#### **Urinary Stones**

**Prevalence of kidney stones:** The percent of adults aged 20 to 74 who self-reported ever having had kidney stones:

(1988–1994): 5.2 percent of adults (6.3 percent of men and 4.1 percent of women)<sup>12</sup>

(1976–1980): 3.2 percent of adults (4.9 percent of men and 2.8 percent of women)<sup>12</sup>

**Inpatient hospital stays:** The estimated number of hospital admissions among adults aged 20 or older with "calculus of kidney and ureters" as a primary diagnosis:

(**2004**): 171,000 hospital stays<sup>13</sup> (**2000**): 177,496 hospital stays<sup>14</sup>

Physician office and hospital outpatient visits combined: The estimated number of doctor visits and outpatient hospital visits by adults aged 20 or older with "calculus of kidney and ureters" as a listed diagnosis:

(2000): 2 million visits with urolithiasis as the primary diagnosis<sup>14</sup>

(**2000**): 2.7 million visits with urolithiasis listed as any diagnosis<sup>14</sup>

**Cost** (2000): \$2.07 billion expended for evaluation and treatment<sup>14</sup>

## **Urinary Tract Infections (UTIs)**

**Prevalence** (1994): Percentages and counts of women and men who had a UTI in the past 12 months:

**Women:** 13.3 percent (12.8 million)<sup>15</sup> **Men:** 2.3 percent (2.0 million)<sup>16</sup>

**Inpatient hospital stays:** The estimated number of hospital admissions among adults aged 20 or older with UTI or cystitis listed as a diagnosis:

(**2004**): 429,000 hospital stays<sup>13</sup> (**2000**): 367,246 hospital stays (121,367

men; 245,879 women)<sup>15–16</sup>

#### Physician office and hospital outpatient

visits combined: The estimated number of doctor visits and outpatient hospital visits by patients aged 20 or older with UTI or cystitis listed as a diagnosis:

(2000): 8.27 million visits (1.41 million men; 6.86 million women) with UTI as the primary diagnosis<sup>14</sup>

(**2000**): 11.02 million visits (2.05 million men; 8.97 million women) with UTI listed as any diagnosis<sup>14</sup>

**Cost** (2000): \$3.5 billion (\$1.0 billion for men; \$2.5 billion for women) expended for evaluation and treatment<sup>14</sup>

#### **Urinary Incontinence**

**Prevalence** (1999–2000): Urinary incontinence affects an estimated 38 percent of women aged 60 or older.<sup>17</sup> Urinary incontinence affects an estimated 17 percent of men aged 60 or older.<sup>18</sup>

**Inpatient hospital stays:** The estimated number of hospital admissions among adults aged 18 or older with urinary incontinence listed as a diagnosis:

(**2000**): 47,802 hospital stays (1,332 men; 46,470 women)<sup>14</sup>

#### Physician office and hospital outpatient

**visits combined:** The estimated number of doctor visits and outpatient hospital visits by patients aged 20 or older, with urinary incontinence listed as a diagnosis:

(2000): 207,595 visits (men) with UI as the primary diagnosis<sup>14</sup>

(2000): 1.16 million visits (women) with

UI as the primary diagnosis<sup>14</sup>

(2000): 353,065 visits (men) with UI listed as any diagnosis<sup>14</sup>

(**2000**): 2.13 million visits (women) with UI listed as any diagnosis<sup>14</sup>

**Costs** (2000): \$463.1 million annually (\$10.3 million for men; \$452.8 million for women) in hospital stays and visits to office-based physicians, hospital outpatient clinics, and emergency rooms by adults.<sup>14</sup>

#### **Other Related Problems**

## Enlarged Prostate (Benign Prostatic Hyperplasia [BPH]) and Lower Urinary Tract Symptoms (LUTS)

**Prevalence** (2000): 6.5 million of the 27 million Caucasian men aged 50 to 79 in the United States were expected to meet the criteria for discussing treatment options for BPH.<sup>19</sup>

BPH/LUTS (AUA Symptom Score of 7 or greater) prevalence estimates for different ages:

**40–49:** 24 percent **50–59:** 31 percent **60–79:** 36 percent **70–up:** 44 percent<sup>19</sup>

**Doctor visits:** The estimated number of doctor visits by men aged 20 or older with "hyperplasia of the prostate" listed as a diagnosis:

(2000): 4.4 million visits with "hyperplasia of the prostate" listed as the primary diagnosis<sup>14</sup>

(**2000**): 7.8 million visits with "hyperplasia of the prostate" listed as any diagnosis<sup>14</sup>

Costs (2000): \$1.1 billion annually in direct expenditures for medical services provided at hospital inpatient and outpatient settings, emergency departments, and physicians' offices<sup>14</sup>

## **Erectile Dysfunction** (Impotence)

**Prevalence** (2000): Complete erectile dysfunction (never able to achieve an erection) prevalence estimates for different ages (based on data from the National Health and Nutrition Examination Survey):

20–29: 1.8 percent 30–39: 0.4 percent 40–49: 1.2 percent 50–59: 4.0 percent 60–69: 16.7 percent 70–74: 21.5 percent 75–up: 47.5 percent Total: 6.2 percent<sup>20</sup>

#### **Prostate Cancer**

**Incidence** (2002): Incidence rates for prostate cancer by race and age:

Caucasian men under 65: 62 cases per 100,000 population of men African American men under 65: 114 cases per 100,000 population of men Caucasian men over 65: 935 cases per 100,000 population of men African American men over 65: 1,396 cases per 100,000 population of men<sup>21</sup>

**Costs** (2000): \$1.3 billion<sup>21</sup>

#### **Sources**

- 1. Coresh J, Selvin E, Stevens LA, Manzi J, Kusek JW, Eggers P, Van Lente F, Levey AS. Prevalence of chronic kidney disease in the United States. *Journal of the American Medical Association*. 2007;298(17):2038–2047.
- 2. Summary of notifiable diseases, United States, 2005. *Morbidity and Mortality Weekly Report (MMWR)*. 2007;54(53):24.
- 3. Summary of notifiable diseases, United States, 2004. *MMWR*. 2006;53(53):24.
- 4. Summary of notifiable diseases, United States, 2003. *MMWR*. 2005;52(54):7.
- 5. Summary of notifiable diseases, United States, 2002. *MMWR*. 2004;51(53):22.
- 6. Summary of notifiable diseases, United States, 2001. *MMWR*. 2003;50(53):xv.
- 7. Summary of notifiable diseases, United States, 2000. *MMWR*. 2002;49(53):xiii.
- 8. United States Renal Data System. *USRDS 2007 Annual Data Report*. Bethesda, MD: National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institutes of Health (NIH), U.S. Department of Health and Human Services (DHHS); 2007. Available at: www.usrds.org. Accessed September 26, 2007.
- 9. United Network for Organ Sharing. Available at: www.unos.org. Accessed December 28, 2007. For updates, call 804–330–8576 or fax 804–323–3794.
- 10. Rosenberg MT, Hazzard M. Prevalence of interstitial cystitis symptoms in women: a population based study in the primary care office. *Journal of Urology*. 2005;174(6):2231–2234.
- 11. Clemens JQ, Joyce GF, Wise M, Payne CK. Interstitial cystitis and painful bladder syndrome. In: Litwin MS, Saigal CS, editors. *Urologic Diseases in America*. DHHS, Public Health

- Service (PHS), NIH, NIDDK. Washington, DC: U.S. Government Printing Office (GPO); 2007. NIH publication 07–5512:123–154.
- 12. Stamatelou KK, Francis ME, Jones CA, Nyberg LM, Curhan GC. Time trends in reported prevalence of kidney stones in the United States: 1976–1994. *Kidney International*. 2003;63:1817–1823.
- 13. National Center for Health Statistics. National Hospital Discharge Survey: 2004 Annual Summary With Detailed Diagnosis and Procedure Data. DHHS, Centers for Disease Control and Prevention. Hyattsville, MD: GPO; 2006. DHHS publication 2006–1733.
- 14. Litwin MS, Saigal CS. Introduction. In: Litwin MS, Saigal CS, editors. *Urologic Diseases in America*. DHHS, PHS, NIH, NIDDK. Washington, DC: GPO; 2007. NIH publication 07–5512:3–7.
- Griebling TL. Urinary Tract Infection in Women. In: Litwin MS, Saigal CS, editors. *Urologic Diseases in America*. DHHS, PHS, NIH, NIDDK. Washington, DC: GPO; 2007. NIH publication 07–5512:587–619.
- 16. Griebling TL. Urinary Tract Infection in Men. In: Litwin MS, Saigal CS, editors. *Urologic Diseases in America*. DHHS, PHS, NIH, NIDDK. Washington, DC: GPO; 2007. NIH publication 07–5512:621–645.
- 17. Nygaard I, Thom DH, Calhoun EA. Urinary Incontinence in Women. In: Litwin MS, Saigal CS, editors. *Urologic Diseases in America*. DHHS, PHS, NIH, NIDDK. Washington, DC: GPO; 2007. NIH publication 07–5512:157–191.
- 18. Stothers L, Thom DH, Calhoun EA. Urinary Incontinence in Men. In: Litwin MS, Saigal CS, editors. *Urologic Diseases in America*. DHHS, PHS, NIH, NIDDK. Washington, DC: GPO; 2007. NIH publication 07–5512:193–221.

- 19. Wei JT, Calhoun EA, Jacobsen SJ. Benign Prostatic Hyperplasia. In: Litwin MS, Saigal CS, editors. *Urologic Diseases in America*. DHHS, PHS, NIH, NIDDK. Washington, DC: GPO; 2007. NIH publication 07–5512:43–67.
- Saigal CS, Wessells H, Wilt T. Predictors and prevalence of erectile dysfunction in a racially diverse population. *Archives of Internal Medicine*. 2006;166:207–212.
- Penson DF, Chan JM. Prostate Cancer. In: Litwin MS, Saigal CS, editors. *Urologic Diseases in America*. DHHS, PHS, NIH, NIDDK. Washington, DC: GPO; 2007. NIH publication 07–5512:71–120.

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