

Section 33  
Veterans Affairs Adjustment

**Purpose:**

A Department of Veterans Affairs (VA) policy change on reporting to cancer registries led to underreporting of cases to some SEER registries for diagnosis years from 2005 through 2007 with particular impact on incidence rates and trends among adult males, who comprise much of the VA hospital system patient population. Correction factors can be used to adjust age-specific and -adjusted incidence rates in SEER-9 and SEER-17 regions based on an assumption that proportions of cancer cases among males diagnosed by VA hospitals in recent years follow patterns of prior years.

**Data for Analysis:**

Data to estimate VA underreporting were provided from these SEER-9 Registries: San Francisco-Oakland SMSA, Iowa, New Mexico, Seattle (Puget Sound), Utah, Atlanta (Metropolitan). Connecticut provided partial data showing no change in reporting of VA cases. Hawaii and Detroit did not provide data. Hawaii reported no VA underreporting and Detroit indicated that a small proportion of VA cases were unreported. Of the remaining SEER-17 registries data were available from San Jose-Monterrey, Los Angeles, Rural Georgia, Louisiana, New Jersey, and Greater California. Kentucky provided partial data and Alaska provided no data, with both registries reporting no VA underreporting.

**Analytic Approach:**

Correction factors for male cases, diagnosis year 2005 through 2007, were estimated based on proportions of cases reported by VA hospitals only, diagnosis years 2000 through 2003, before the VA policy change:

$$\text{Correction factor} = (1 - \text{Reported VA only cases} / \text{All reported cases}) / (1 - \text{expected proportion VA only cases})$$

The 2009 SEER submission is the first to include cases diagnosed in 2007. The expected proportion of cases reported only by the VA for diagnosis year (DY) 2007 in this submission year (SY) can be estimated from previous first reporting year cases reported by the VA only. To estimate this proportion for leading cancer sites of males, data for diagnosis years before the VA reporting change occurred were used (DY 2000 through 2003, SY 2002 through 2005):

$$\frac{[\text{VA only (DY 2000, SY 2002)} + (\text{DY 2001, SY 2003}) + (\text{DY 2002, SY 2004}) + (\text{DY 2003, SY 2005})]}{[(\text{All cases (DY 2000, SY 2002)}) + (\text{DY 2001, SY 2003}) + (\text{DY 2002, SY 2004}) + (\text{DY 2003, SY 2005})]}$$

Underreporting of VA cases in the two preceding diagnosis years, 2006 and 2005 were also estimated based on proportions of VA only cases reported in second and third reporting years using data from baseline submission years (**Figure 1**).

Figure 1. Matrix of VA only case proportions by submission & diagnosis year

		Diagnosis Year							
		2000	2001	2002	2003	2004	2005	2006	2007
Submission Year	2002	1st							
	2003	2nd	1st						
	2004	3rd	2nd	1st					
	2005	4th	3rd	2nd	1st				
	2006		4th	3rd	2nd	1st			
	2007			4th	3rd	2nd	1st		
	2008				4th	3rd	2nd	1st	
	2009					4th	3rd	2nd	1st
			Baseline reference years				Year since first submission		

\*Submission years with data to estimate proportions of cases reported by the VA only varied by registry.

### **Age-and Delay Adjusted Incidence Trends with VA-Adjustment:**

Final VA-adjusted delay adjustment models for SEER 9 Registries were based on adjustments for VA underreporting within the 19 age groups used to age-adjust to the 2000 standard population.

### **VA Reporting Backlog and Delay Adjustment:**

In submission year 2009, several SEER Registries received initial reports of cases reported only by a VA hospital that were diagnosed with cancer in 2005 or 2006. Some of these cases might otherwise have been reported in a previous submission year. To adjust for any backlog of VA case reporting on the delay adjustment model, the VA case counts were redistributed to previous submission years according to expected counts from the delay distribution, conditional on current submission year. This VA delay-adjustment was small for the November 2009 submission. It was integrated into SEER 9 and SEER 13 adjustment models presented throughout the CSR, as discussed in the CSR technical report [http://seer.cancer.gov/csr/1975\\_2007/technotes/reportingdelay.html](http://seer.cancer.gov/csr/1975_2007/technotes/reportingdelay.html).

### **Estimation of Missing VA Cases:**

The overall and top 12 cancer sites among males (all races) in SEER 17 registries during diagnosis years 2003 to 2007 are listed in descending order of incidence rates (Table 1). For all cancers combined VA correction factor adjusted crude rates upward for diagnosis years 2005 to 2007, range: 1.0135 to 1.0214 (Table 1). Correction factors were greater for all cancers combined among Blacks compared to All Races and Whites. Correction factors for all races were also greater than the correction factor for All Sites Combined for several cancer Sites: Prostate, Lung and Bronchus, Oral Cavity and Pharynx, and Liver and Intrahepatic Bile Duct.

### **Impact of VA Underreporting on Trends:**

The impact of underreporting on delay-adjusted incidence trends was evident for several Joinpoint models (Table 2). After adjusting for underreporting of VA cases, delay-adjusted models for incidence of all sites combined among Black males and both Liver and Intrahepatic Bile Duct and Kidney and Renal Pelvis (All races) included new Joinpoint segments. Other delay-adjusted incidence trends differed before and after VA-adjustment; however the number of Joinpoint segments and statistical significance of their APCs were unchanged (e.g., all sites and pancreas, All races). Only for urinary bladder cancer and leukemia were the number of Joinpoint segments, values of APCs, and their statistical significance identical before and after VA-adjustment.

The summary VA underreporting correction factors for males (All Races) in the SEER 9 and SEER 17 registries are presented for the November 2009 SEER data submission. (Table 3) Tables also present correction factors for White males (Table 4) and Black males (Table 5) for diagnosis years 2005 through 2007 for all cancer sites combined and the top 12 cancer sites among males in the SEER 17 registries reported during the diagnosis years from 2003 through 2007.

Table 6 through Table 18 provide detail for VA underreporting correction factors presented in Table 3. Correction factors are presented for overall and top 12 cancer sites by race and broad age groups in descending order of incidence rates (i.e., All Cancer Sites Combined, Prostate, Lung and Bronchus, Colon and Rectum, Urinary Bladder, Melanoma of the Skin, Non-Hodgkin Lymphoma, Kidney and Renal Pelvis, Leukemia, Oral Cavity and Pharynx, Pancreas, Stomach, Liver and Intrahepatic Bile Duct). Table 19 presents Registry specific correction factors for diagnosis years 2005 through 2007 for All Cancers Combined among males in 12 registries that provided data to make these calculations that apply to the November 2009 data submission.

**Table 1. Baseline Proportion of Cancer Cases Reported by Veterans Administration (VA) Facilities, 2000 to 2003 with Estimated Missing VA Cases and VA-Adjustment Factors for Age-Adjusted Incidence Rates for 2005, 2006, and 2007 All Cancers Combined (All Races, White, Black) and Top Twelve Cancer Sites, Males All Races Combined, SEER 17**

<b>Incidence Rate</b>	<b>Primary Site</b>	<b>% VA Cases in 2005</b>	<b>Base % VA Cases, 3rd Year</b>	<b>2005 Age-Adj Rate Correction Factor</b>	<b>% VA Cases in 2006</b>	<b>Base % VA Cases, 2nd Year</b>	<b>2006 Age-Adj Rate Correction Factor</b>	<b>% VA Cases in 2007</b>	<b>Base % VA Cases, 1st Year</b>	<b>2007 Age-Adj Rate Correction Factor</b>
	All Sites Combined (All Races)	1.98	3.68	1.0135	1.37	3.73	1.0184	1.02	3.78	1.0214
	All Sites Combined (Whites)	1.76	3.25	1.0117	1.23	3.30	1.0159	0.95	3.35	1.0184
	All Sites Combined (Blacks)	4.81	7.87	1.0425	3.31	7.94	1.0539	2.18	8.00	1.0646
1	Prostate	2.14	3.63	1.0148	1.36	3.69	1.0194	0.97	3.78	1.0224
2	Lung and Bronchus	2.34	4.85	1.0165	1.75	4.91	1.0220	1.39	4.92	1.0244
3	Colon and Rectum	2.11	3.76	1.0129	1.32	3.82	1.0168	1.18	3.85	1.0186
4	Urinary Bladder	2.44	3.88	1.0079	1.66	3.83	1.0131	1.30	3.97	1.0151
5	Melanoma of the Skin	1.51	2.79	1.0075	1.10	2.78	1.0080	0.87	2.79	1.0105
6	Non-Hodgkin Lymphoma	1.12	2.74	1.0082	1.27	2.82	1.0078	0.80	2.89	1.0098
7	Kidney and Renal Pelvis	2.63	5.16	1.0133	1.86	5.21	1.0186	1.13	5.07	1.0215
8	Leukemia	1.59	2.76	1.0101	1.40	2.77	1.0107	0.78	2.81	1.0147
9	Oral Cavity and Pharynx	2.32	5.40	1.0169	1.61	5.34	1.0209	0.98	5.07	1.0224
10	Pancreas	1.59	2.33	1.0070	0.98	2.31	1.0082	0.62	2.31	1.0102
11	Stomach	1.29	2.53	1.0066	1.16	2.57	1.0077	0.67	2.66	1.0110
12	Liver and Intrahepatic Bile Duct	2.16	3.94	1.0147	1.39	3.95	1.0218	1.56	4.14	1.0210

**Table 2. Age- and Delay-Adjusted Incidence Trends, With and Without Adjustment for Veterans Administration Underreporting, 2005, 2006 and 2007. All Cancers Combined and Selected Cancer Sites, Males, All Races, SEER 9 Registries, 1975 to 2007.\* Joinpoint analyses for 1975–2007†**

Cancer site	Race	Joinpoint Trend 1 Year Range	Joinpoint Trend 1 APC‡	Joinpoint Trend 2 Year Range	Joinpoint Trend 2 APC‡	Joinpoint Trend 3 Year Range	Joinpoint Trend 3 APC‡	Joinpoint Trend 4 Year Range	Joinpoint Trend 4 APC‡	Joinpoint Trend 5 Year Range	Joinpoint Trend 5 APC‡
All sites	All	1975-1989	1.3§	1989-1992	5.2§	1992-1995	-4.8§	1995-2000	0.4	2000-2007	-1.1§
All sites (VA-adjusted)	All					1992-1995	-4.9§	1995-1999	0.6	1999-2007	-0.7§
All sites	White	1975-1989	1.4§	1989-1992	5.0§	1992-1995	-5.1§	1995-2000	0.7	2000-2007	-1.0§
All sites (VA-adjusted)	White					1992-1995	-5.2§	1995-1999	0.9	1999-2007	-0.6§
All sites	Black	1975-1981	2.8§	1981-1989	0.7	1989-1992	6.8§	1992-2007	-1.6§		
All sites (VA-adjusted)	Black			1981-1989	0.6	1989-1992	7.4§	1992-1996	-2.5§	1996-2007	-1.2§
Prostate	All	1975-1988	2.6§	1988-1992	16.5§	1992-1995	-11.5§	1995-2000	2.1	2000-2007	-1.7§
Prostate (VA-adjusted)	All							1995-2000	2.0	2000-2007	-1.5§
Lung and bronchus	All	1975-1982	1.4§	1982-1991	-0.4	1991-2007	-1.8§				
Lung and bronchus (VA-adjusted)	All	1975-1982	1.5§	1982-1991	-0.5§	1991-2007	-1.7§				
Colon and rectum	All	1975-1985	1.1§	1985-1991	-1.2§	1991-1995	-3.2§	1995-1998	2.1	1998-2007	-3.1§
Colon and rectum (VA-adjusted)	All					1991-1995	-3.1§	1995-1998	2.0	1998–2007	-2.9§
Urinary bladder	All	1975-1986	0.9§	1986-2007	0.0						
Urinary bladder (VA-adjusted)	All										
Melanoma of the skin	All	1975-1986	5.6§	1986-2007	2.9§						
Melanoma of the skin (VA-adjusted)	All	1975-1986	5.5§	1986-2007	3.0§						
Non-Hodgkin lymphoma	All	1975-1991	4.2§	1991-2007	0.3§						
Non-Hodgkin lymphoma (VA-adjusted)	All			1991-2007	0.4§						
Kidney and renal pelvis	All	1975-2007	1.8§								
Kidney and renal pelvis (VA-adjusted)	All	1975-2004	1.8§	2004-2007	4.1§						
Leukemia	All	1975-2007	0.2§								
Leukemia (VA-adjusted)	All										
Oral cavity and pharynx	All	1975-2007	-1.2§								
Oral cavity and pharynx (VA -adjusted)	All	1975-2007	-1.1§								
Pancreas	All	1975-1981	-1.8§	1981-1985	1.1	1985-1990	-2.2§	1990-2003	0.2	2003-2007	2.0§
Pancreas (VA-adjusted)	All									2003-2007	2.2§
Stomach	All	1975-1988	-1.2§	1988-2007	-2.0§						
Stomach (VA-adjusted)	All	1975-1980	-0.1	1980-2007	-1.8§						
Liver and IBD	All	1975-2007	3.6§								
Liver and IBD (VA-adjusted)	All	1975-1987	2.1§	1987-1991	6.7	1991-2007	3.5§				

VA Underreporting adjustment analyses are computed by age (0-24, 25-49, 50-74, 75+), race (all races, White, Black) and cancer site.

\* SEER 9 Registries: Connecticut, Hawaii, Iowa, Utah, and New Mexico, metropolitan San Francisco, Detroit, Atlanta, and Seattle-Puget Sound. Correction factors apply to the November 2009 SEER data submission.

† Joinpoint analyses with up to four joinpoints are based on rates per 100,000 persons and were age-adjusted to the 2000 US standard population (19 age groups – Census p25–1130 ). Joinpoint (JP) Regression Program, v 3.4.2. October 2009, National Cancer Institute.

‡ APC is based on delay-adjusted rates that were age-adjusted to the 2000 US standard population (19 age groups – Census p25–1130).

§ APC is statistically significantly different from zero ( $P < .05$ , two-sided Student  $t$ -test.).

|| APCs are same as delay-adjusted.

**Table 3. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Adjusted Incidence Rates for All Cancers Combined and Top Twelve Cancer Sites, SEER 9 & 17 Registries: Males Only, All Ages, All Races**

<b>Primary Cancer Site</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
All Sites	1.0094	1.0142	1.0205	1.0135	1.0184	1.0214
Prostate	1.0095	1.0127	1.0188	1.0148	1.0194	1.0224
Lung and Bronchus	1.0095	1.0164	1.0230	1.0165	1.0220	1.0244
Colon and Rectum	1.0105	1.0122	1.0172	1.0129	1.0168	1.0186
Urinary Bladder	1.0058	1.0113	1.0148	1.0079	1.0131	1.0151
Melanoma of the Skin	1.0055	1.0064	1.0098	1.0075	1.0080	1.0105
Non-Hodgkin Lymphoma	1.0054	1.0057	1.0107	1.0082	1.0078	1.0098
Kidney and Renal Pelvis	1.0097	1.0140	1.0188	1.0133	1.0186	1.0215
Leukemia	1.0082	1.0096	1.0099	1.0101	1.0107	1.0147
Oral Cavity and Pharynx	1.0088	1.0078	1.0138	1.0169	1.0209	1.0224
Pancreas	1.0027	1.0011	1.0019	1.0070	1.0082	1.0102
Stomach	1.0048	1.0057	1.0078	1.0066	1.0077	1.0110
Liver and Intrahepatic Bile Duct	1.0090	1.0143	1.0157	1.0147	1.0218	1.0210

**Table 4. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Adjusted Incidence Rates for All Cancers Combined and Top Twelve Cancer Sites, SEER 9 & 17 Registries: Males Only, By Age Group, Whites Only**

<b>Primary Cancer Site</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
All Sites	1.0093	1.0141	1.0190	1.0117	1.0159	1.0184
Prostate	1.0097	1.0128	1.0170	1.0117	1.0158	1.0182
Lung and Bronchus	1.0101	1.0160	1.0201	1.0144	1.0182	1.0201
Colon and Rectum	1.0092	1.0118	1.0154	1.0113	1.0141	1.0158
Urinary Bladder	1.0060	1.0109	1.0142	1.0085	1.0124	1.0147
Melanoma of the Skin	1.0052	1.0056	1.0093	1.0074	1.0080	1.0103
Non-Hodgkin Lymphoma	1.0052	1.0060	1.0107	1.0067	1.0069	1.0090
Kidney and Renal Pelvis	1.0110	1.0148	1.0157	1.0111	1.0158	1.0168
Leukemia	1.0076	1.0085	1.0094	1.0092	1.0094	1.0124
Oral Cavity and Pharynx	1.0102	1.0071	1.0108	1.0155	1.0166	1.0164
Pancreas	1.0026	1.0000	1.0008	1.0047	1.0063	1.0076
Stomach	1.0070	1.0062	1.0098	1.0063	1.0061	1.0076
Liver and Intrahepatic Bile Duct	1.0171	1.0216	1.0255	1.0190	1.0245	1.0234

**Table 5. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Adjusted Incidence Rates for All Cancers Combined and Top Twelve Cancer Sites, SEER 9 & 17 Registries: Males Only, All Ages, Blacks Only**

<b>Primary Cancer Site</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
All Sites	1.0164	1.0213	1.0469	1.0425	1.0539	1.0646
Prostate	1.0135	1.0218	1.0436	1.0440	1.0541	1.0652
Lung and Bronchus	1.0109	1.0253	1.0663	1.0443	1.0595	1.0697
Colon and Rectum	1.0093	1.0099	1.0327	1.0327	1.0389	1.0427
Urinary Bladder	1.0052	1.0038	1.0218	1.0072	1.0172	1.0308
Melanoma of the Skin	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Non-Hodgkin Lymphoma	1.0121	1.0119	1.0154	1.0117	1.0153	1.0354
Kidney and Renal Pelvis	1.0222	1.0186	1.0342	1.0432	1.0470	1.0841
Leukemia	1.0181	1.0000	1.0252	1.0145	1.0123	1.0537
Oral Cavity and Pharynx	1.0000	1.0367	1.0502	1.0335	1.0472	1.0449
Pancreas	1.0058	1.0000	1.0037	1.0136	1.0285	1.0559
Stomach	1.0000	1.0038	1.0037	1.0102	1.0204	1.0307
Liver and Intrahepatic Bile Duct	1.0055	1.0271	1.0304	1.0232	1.0324	1.0653

**Table 6. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for All Cancers Combined SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0002	1.0000	1.0000	1.0001	1.0001	1.0001
Total	25-49	1.0027	1.0040	1.0053	1.0038	1.0046	1.0054
Total	50-74	1.0100	1.0152	1.0229	1.0155	1.0213	1.0248
Total	75+	1.0107	1.0161	1.0222	1.0124	1.0167	1.0203
White	0-24	1.0002	1.0000	1.0000	1.0001	1.0000	1.0000
White	25-49	1.0030	1.0041	1.0045	1.0034	1.0036	1.0042
White	50-74	1.0099	1.0151	1.0208	1.0136	1.0186	1.0213
White	75+	1.0110	1.0160	1.0213	1.0109	1.0148	1.0178
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0010	1.0022	1.0125	1.0105	1.0153	1.0169
Black	50-74	1.0190	1.0251	1.0547	1.0411	1.0528	1.0651
Black	75+	1.0145	1.0264	1.0567	1.0493	1.0629	1.0785



**Table 7. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for Prostate Cancer SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total	25-49	1.0017	1.0020	1.0030	1.0046	1.0077	1.0041
Total	50-74	1.0106	1.0143	1.0206	1.0160	1.0217	1.0242
Total	75+	1.0104	1.0137	1.0199	1.0138	1.0163	1.0217
White	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
White	25-49	1.0005	1.0000	1.0000	1.0111	1.0181	1.0002
White	50-74	1.0101	1.0137	1.0173	1.0122	1.0174	1.0190
White	75+	1.0115	1.0138	1.0191	1.0120	1.0142	1.0188
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0013	1.0016	1.0065	1.0050	1.0119	1.0182
Black	50-74	1.0195	1.0294	1.0607	1.0458	1.0579	1.0693
Black	75+	1.0140	1.0301	1.0446	1.0493	1.0542	1.0759

**Table 8. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for Cancers of the Lung and Bronchus SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total	25-49	1.0025	1.0041	1.0036	1.0046	1.0044	1.0047
Total	50-74	1.0144	1.0214	1.0289	1.0218	1.0268	1.0291
Total	75+	1.0105	1.0177	1.0236	1.0131	1.0201	1.0228
White	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
White	25-49	1.0046	1.0045	1.0029	1.0048	1.0036	1.0033
White	50-74	1.0148	1.0223	1.0265	1.0201	1.0234	1.0254
White	75+	1.0101	1.0170	1.0210	1.0107	1.0167	1.0186
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0000	1.0024	1.0059	1.0059	1.0078	1.0088
Black	50-74	1.0222	1.0418	1.0777	1.0441	1.0644	1.0697
Black	75+	1.0260	1.0353	1.0713	1.0557	1.0776	1.0804

**Table 9. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for Colon and Rectum Cancer SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total	25-49	1.0033	1.0044	1.0050	1.0023	1.0037	1.0045
Total	50-74	1.0114	1.0158	1.0232	1.0142	1.0216	1.0234
Total	75+	1.0102	1.0141	1.0198	1.0127	1.0163	1.0186
White	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
White	25-49	1.0016	1.0024	1.0021	1.0016	1.0023	1.0032
White	50-74	1.0123	1.0165	1.0212	1.0143	1.0201	1.0206
White	75+	1.0098	1.0138	1.0179	1.0108	1.0132	1.0162
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0069	1.0129	1.0163	1.0044	1.0090	1.0121
Black	50-74	1.0242	1.0239	1.0525	1.0341	1.0440	1.0500
Black	75+	1.0127	1.0207	1.0315	1.0527	1.0663	1.0584

**Table 10. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for Urinary Bladder Cancer SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total	25-49	1.0019	1.0010	1.0046	1.0042	1.0022	1.0032
Total	50-74	1.0099	1.0128	1.0176	1.0117	1.0166	1.0220
Total	75+	1.0104	1.0173	1.0213	1.0079	1.0140	1.0146
White	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
White	25-49	1.0011	1.0036	1.0043	1.0040	1.0035	1.0030
White	50-74	1.0091	1.0127	1.0169	1.0125	1.0159	1.0216
White	75+	1.0111	1.0173	1.0214	1.0080	1.0137	1.0138
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	50-74	1.0222	1.0163	1.0364	1.0328	1.0369	1.0415
Black	75+	1.0000	1.0261	1.0383	1.0047	1.0238	1.0363

**Table 11. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for Melanoma of the Skin SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total	25-49	1.0011	1.0019	1.0006	1.0019	1.0016	1.0012
Total	50-74	1.0096	1.0125	1.0178	1.0106	1.0136	1.0162
Total	75+	1.0090	1.0128	1.0189	1.0110	1.0128	1.0172
White	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
White	25-49	1.0011	1.0023	1.0003	1.0019	1.0016	1.0013
White	50-74	1.0093	1.0124	1.0176	1.0105	1.0136	1.0161
White	75+	1.0091	1.0123	1.0183	1.0114	1.0132	1.0176
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	50-74	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	75+	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

**Table 12. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for Non-Hodgkin Lymphoma SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total	25-49	1.0038	1.0012	1.0015	1.0035	1.0027	1.0035
Total	50-74	1.0105	1.0147	1.0219	1.0159	1.0159	1.0184
Total	75+	1.0088	1.0094	1.0163	1.0094	1.0089	1.0142
White	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
White	25-49	1.0057	1.0005	1.0005	1.0033	1.0020	1.0018
White	50-74	1.0105	1.0147	1.0202	1.0143	1.0149	1.0170
White	75+	1.0094	1.0102	1.0165	1.0101	1.0088	1.0130
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0023	1.0135	1.0028	1.0077	1.0129	1.0107
Black	50-74	1.0450	1.0356	1.0571	1.0468	1.0434	1.0551
Black	75+	1.0123	1.0000	1.0115	1.0094	1.0354	1.1186

**Table 13. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for Cancers of the Kidney and Renal Pelvis SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total	25-49	1.0049	1.0022	1.0032	1.0081	1.0101	1.0172
Total	50-74	1.0098	1.0178	1.0193	1.0168	1.0233	1.0283
Total	75+	1.0197	1.0362	1.0444	1.0151	1.0227	1.0275
White	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
White	25-49	1.0031	1.0022	1.0030	1.0061	1.0088	1.0172
White	50-74	1.0092	1.0172	1.0167	1.0148	1.0204	1.0209
White	75+	1.0176	1.0296	1.0377	1.0124	1.0205	1.0243
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0125	1.0040	1.0067	1.0179	1.0070	1.0070
Black	50-74	1.0351	1.0309	1.0528	1.0529	1.0717	1.1221
Black	75+	1.0450	1.0476	1.0789	1.0717	1.0576	1.0922

**Table 14. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for Leukemia SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0013	1.0000	1.0000	1.0005	1.0000	1.0000
Total	25-49	1.0039	1.0052	1.0048	1.0037	1.0036	1.0057
Total	50-74	1.0149	1.0199	1.0205	1.0162	1.0164	1.0235
Total	75+	1.0142	1.0134	1.0207	1.0174	1.0198	1.0241
White	0-24	1.0009	1.0000	1.0000	1.0003	1.0000	1.0000
White	25-49	1.0020	1.0051	1.0009	1.0033	1.0057	1.0062
White	50-74	1.0159	1.0210	1.0206	1.0157	1.0158	1.0217
White	75+	1.0161	1.0139	1.0190	1.0162	1.0179	1.0212
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0000	1.0000	1.0000	1.0209	1.0028	1.0033
Black	50-74	1.0204	1.0030	1.0222	1.0252	1.0250	1.0721
Black	75+	1.0119	1.0101	1.0575	1.0410	1.0490	1.0939



**Table 15. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for Cancers of the Oral Cavity and Pharynx SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total	25-49	1.0006	1.0000	1.0012	1.0061	1.0076	1.0056
Total	50-74	1.0156	1.0183	1.0290	1.0265	1.0307	1.0364
Total	75+	1.0055	1.0139	1.0183	1.0086	1.0149	1.0145
White	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
White	25-49	1.0008	1.0007	1.0029	1.0051	1.0061	1.0048
White	50-74	1.0169	1.0185	1.0282	1.0241	1.0284	1.0309
White	75+	1.0062	1.0147	1.0170	1.0066	1.0151	1.0132
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0000	1.0000	1.0000	1.0101	1.0242	1.0080
Black	50-74	1.0165	1.0413	1.0656	1.0669	1.0732	1.0950
Black	75+	1.0000	1.0000	1.0196	1.0085	1.0167	1.0133

**Table 16. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for Pancreatic Cancer SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total	25-49	1.0000	1.0052	1.0018	1.0041	1.0032	1.0034
Total	50-74	1.0056	1.0067	1.0080	1.0116	1.0159	1.0203
Total	75+	1.0040	1.0055	1.0055	1.0102	1.0110	1.0130
White	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
White	25-49	1.0000	1.0022	1.0022	1.0018	1.0016	1.0043
White	50-74	1.0038	1.0045	1.0071	1.0084	1.0117	1.0145
White	75+	1.0056	1.0059	1.0071	1.0084	1.0100	1.0104
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	50-74	1.0117	1.0195	1.0164	1.0362	1.0522	1.0932
Black	75+	1.0071	1.0000	1.0000	1.0268	1.0387	1.0635

**Table 17. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for Stomach Cancer SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total	25-49	1.0080	1.0085	1.0084	1.0030	1.0041	1.0026
Total	50-74	1.0086	1.0088	1.0120	1.0135	1.0120	1.0140
Total	75+	1.0072	1.0134	1.0161	1.0100	1.0120	1.0204
White	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
White	25-49	1.0000	1.0000	1.0000	1.0000	1.0009	1.0007
White	50-74	1.0072	1.0082	1.0087	1.0123	1.0104	1.0094
White	75+	1.0110	1.0178	1.0210	1.0106	1.0119	1.0159
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0100	1.0077	1.0091	1.0036	1.0035	1.0042
Black	50-74	1.0128	1.0086	1.0309	1.0333	1.0332	1.0615
Black	75+	1.0000	1.0000	1.0069	1.0231	1.0175	1.0699

**Table 18. Adjustment Factors for Veteran's Administration Underreporting in 2005, 2006, & 2007. Age-Specific Incidence Rates for Cancers of the Liver and Intrahepatic Bile Duct. SEER 9 & 17 Registries: Males Only, By Age Group, By Race**

<b>Race</b>	<b>Age at Diagnosis</b>	<b>2005 Correction Factor SEER-9</b>	<b>2006 Correction Factor SEER-9</b>	<b>2007 Correction Factor SEER-9</b>	<b>2005 Correction Factor SEER-17</b>	<b>2006 Correction Factor SEER-17</b>	<b>2007 Correction Factor SEER-17</b>
Total	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total	25-49	1.0023	1.0047	1.0039	1.0028	1.0022	1.0044
Total	50-74	1.0186	1.0236	1.0264	1.0245	1.0322	1.0330
Total	75+	1.0163	1.0135	1.0143	1.0160	1.0210	1.0181
White	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
White	25-49	1.0022	1.0059	1.0065	1.0032	1.0033	1.0088
White	50-74	1.0316	1.0367	1.0433	1.0274	1.0367	1.0362
White	75+	1.0299	1.0222	1.0166	1.0228	1.0273	1.0155
Black	0-24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	25-49	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Black	50-74	1.0174	1.0471	1.0548	1.0532	1.0704	1.1027
Black	75+	1.0000	1.0000	1.0000	1.0072	1.0081	1.0321