Growth in Prevalence of Substance Abuse among U.S. Adults with Disabilities Compared to the Increase in Substance Abuse in the General Residential Population without Disabilities: A Cross-sectional Longitudinal Study of Self-Reported Data

Raymond E. Glazier, Ph.D[1], Dwight Zach Smith, MD[2], Ryan Kling, MA[1]

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Background

There are published reports that substance abuse (SA) is more common among persons with disabilities than in the general population. (Gilson, Chilcoat, & Stapleton. 1996; Moore & Li, 1998) In fact, some studies have asserted that the prevalence is twice as high. Yet hard data are difficult to obtain because surveys like the Current Population Survey (CPS) that have clear markers for disability status do not track SA.

Methods

We examined 16 years (1991 – 2007) of data from the National Survey on Drug Use and Health (NSDUH) and its precursor, the National Household Survey on Drug Abuse (NHSDA), to compare the prevalence of: cigarette smoking, alcohol abuse, marijuana use, use of certain illicit drugs (cocaine and heroin), and abuse of 4 specific classes of prescription drugs (analgesics, sedatives, stimulants, and tranquilizers) – for adults with disabilities, compared with the non-disabled adult residential population.
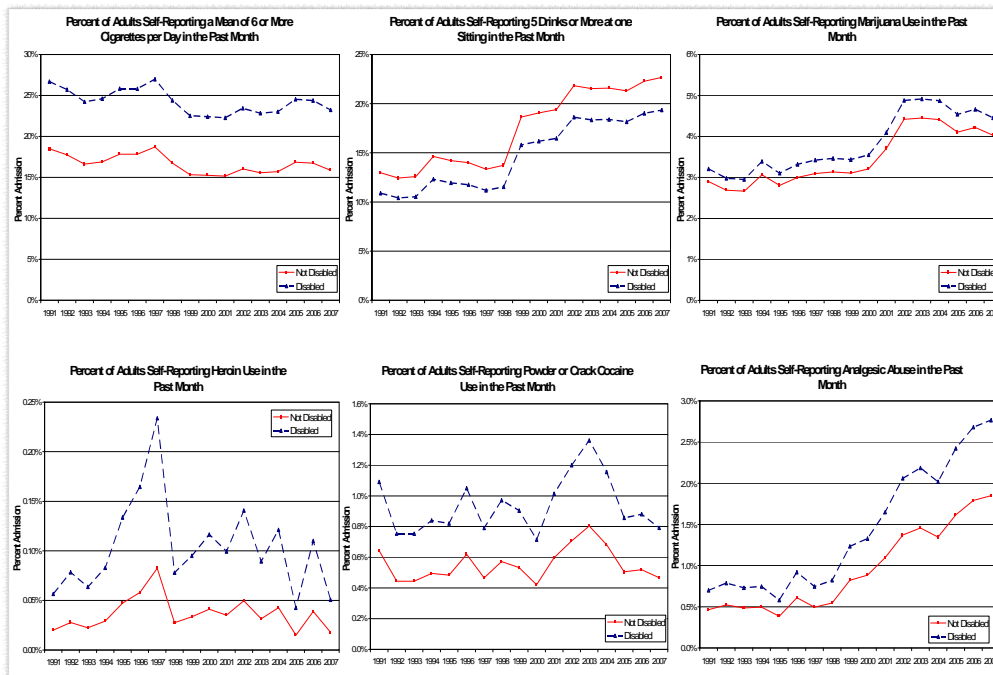
We utilized weighted logistic regression to adjust for demographic factors (age group, gender, race/ethnicity, urban residence, education level, income level) and dummy variables for survey years, in order to predict SA for the two groups ? community residing adults with disabilities and those without, for each substance studied.

Disability is defined as: 1) reported a work disability, 2) age under 65 (non-aged) and Medicare-eligible, or 3) adults under 65 receiving SSI benefits.

Because the survey questions and protocol have changed somewhat over time, we confirmed our findings by applying the same logistic regression models to only the most recent period (2001 – 2007), over which the survey methodology did not change, and we observed the same outcomes.

Results

Adults with disabilities exhibited, over time, a greater propensity than other adults to abuse all substances studied, with the sole exception of alcohol, which they were less likely to abuse (all findings had p<0.001 except marijuana where p=0.02). While substance abuse (SA) overall trends appeared to increase over time, these trends were not significant, with the exception of analgesics and cocaine. After extensive testing, we found the relationship of SA for persons with disabilities versus those without appears to remain fairly constant over time. The prevalence of Disability SA was different by the following multiplicative factors (odds ratios): Cigarettes – 1.6; Alcohol only – 0.8, Marijuana – 1.1; Cocaine – 1.7; Heroin – 2.8; Analgesics – 1.5; Tranquilizers – 1.9; Sedatives – 1.8; Stimulants – 1.3; Psychotherapeutic medications – 1.5. Only in the case of alcohol was the ratio < 1.0.

Conclusions & Implications

Findings of this investigation are generally in line with previous efforts to examine SA among individuals with disabilities compared to the general population. Targeted public health efforts to combat SA for persons with disabilities seem to be warranted.

Moreover, increases in prevalence of SA among both disabled and non-disabled populations in the 16-year interval from 1991 – 2007 indicate an increased demand for SA treatment services, availability of which is already lagging demand, for accessible SA treatment slots in particular. [See Krahn et al., 2006]

Possibly contributing to the continued elevation of SA among adults with disabilities may be frustration with unfulfilled rising employment expectations in the post-ADA era. [The employment rate of persons with disabilities had actually declined somewhat in the 17 years following passage of the Americans with Disabilities Act of 1990.]

References

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Krahn, Gloria, N.Farrell, R. Gabriel, & D, Deck(2006). Access barriers to substance abuse treatment for persons with disabilities. Journal of Substance Abuse Treatment 31. 375-384.

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Percent of Adults Self-Reporting a Mean of 6 or More Cigarettes per Day in the Past Month
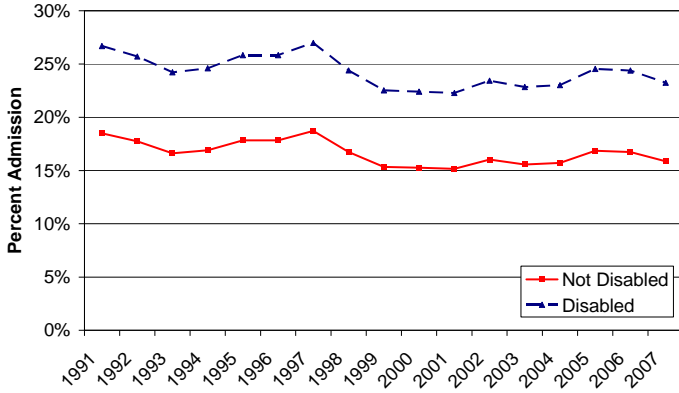
Percent of Adults Self-Reporting 5 Drinks or More at one Sitting in the Past Month
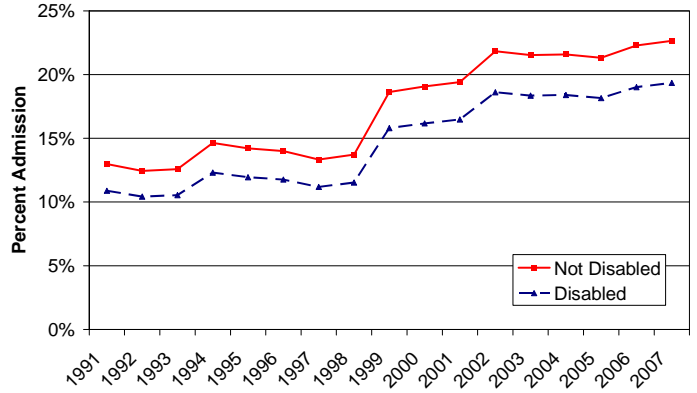
Percent of Adults Self-Reporting Marijuana Use in the Past Month
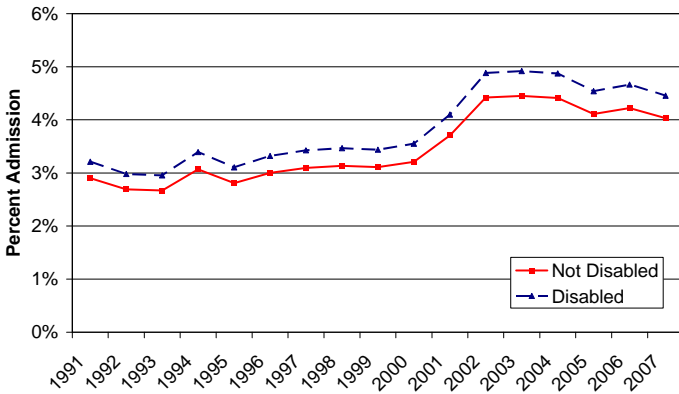
Percent of Adults Self-Reporting Powder or Crack Cocaine Use in the Past Month
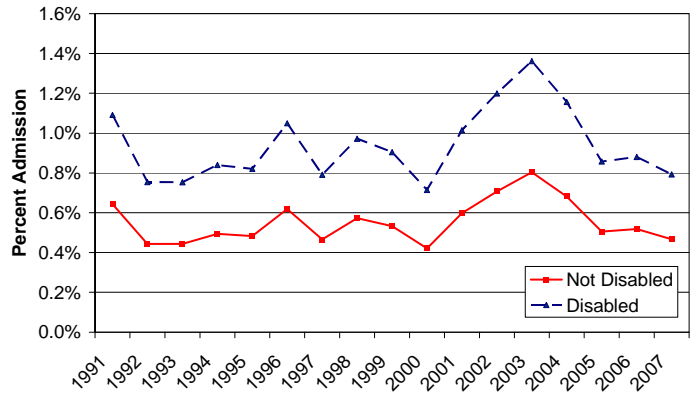
Percent of Adults Self-Reporting Heroin Use in the Past Month

Percent of Adults Self-Reporting Analgesic Abuse in the Past Month

Percent of Adults Self-Reporting Tranquilizer Use in the Past Month
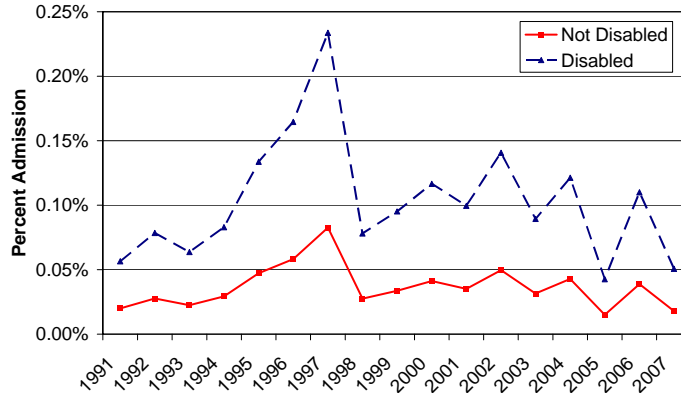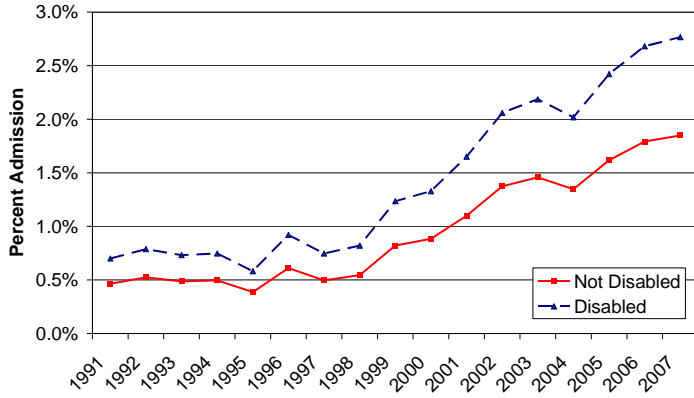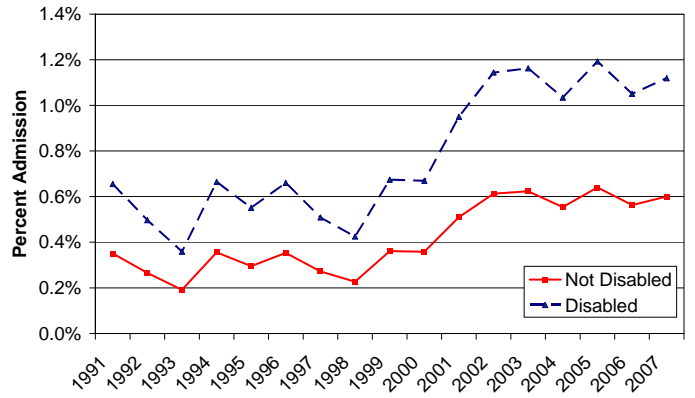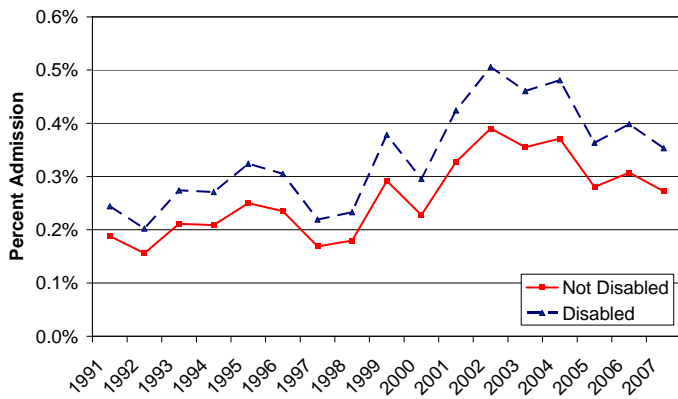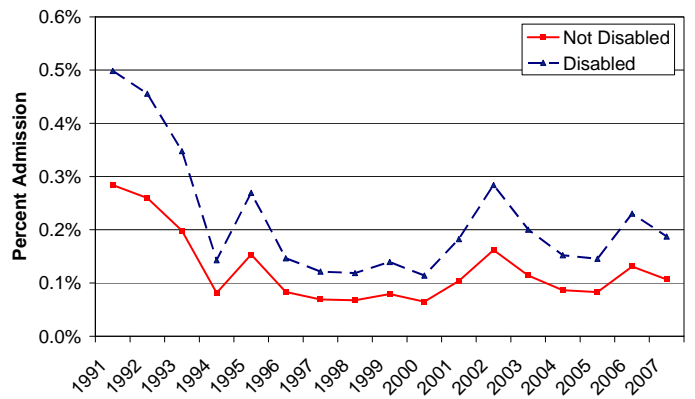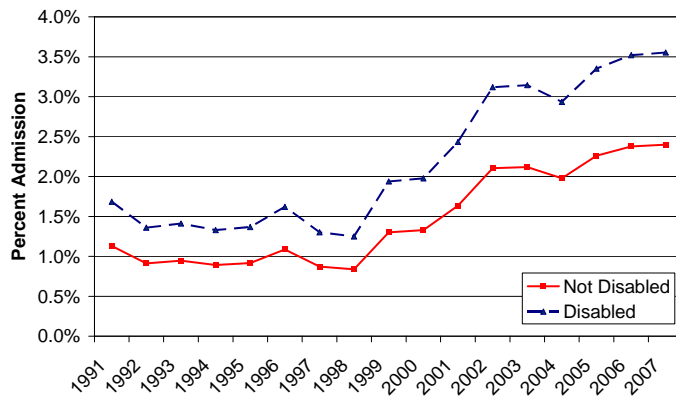
Percent of Adults Self-Reporting Stimulant Use in the Past Month

Percent of Adults Self-Reporting Sedative Use in the Past Month

Percent of Adults Self-Reporting Psychotherapeutic Use in the Past Month

Odds Ratios and p-values from 16-Year Weighted Logistic Models Estimated using NHSDA/NSDUH Data										
Description	Cigarette 6+		Binge Alcohol		Marijuana		Powder/Crack Cocaine		Heroin	
	Odds	p-value	Odds	p-value	Odds	p-value	Odds	p-value	Odds	p-value
Intercept		0.000		0.000		0.000		0.000		0.000
y1991	1.202	0.009	0.509	0.000	0.711	0.001	1.381	0.193	1.115	0.888
y1992	1.143	0.058	0.485	0.000	0.659	0.000	0.951	0.845	1.547	0.578
y1993	1.056	0.477	0.491	0.000	0.653	0.000	0.950	0.845	1.256	0.781
y1994	1.078	0.341	0.585	0.000	0.753	0.007	1.060	0.819	1.638	0.530
y1995	1.151	0.054	0.566	0.000	0.687	0.000	1.035	0.895	2.639	0.380
y1996	1.151	0.070	0.556	0.000	0.737	0.003	1.328	0.242	3.251	0.129
y1997	1.221	0.006	0.525	0.000	0.761	0.017	0.998	0.993	4.618	0.049
y1998	1.066	0.375	0.543	0.000	0.770	0.009	1.228	0.405	1.539	0.611
y1999	0.960	0.529	0.782	0.000	0.764	0.004	1.142	0.587	1.877	0.424
y2000	0.954	0.481	0.804	0.000	0.790	0.011	0.901	0.660	2.300	0.300
y2001	0.947	0.402	0.822	0.000	0.916	0.350	1.282	0.295	1.964	0.372
y2002	1.011	0.864	0.954	0.367	1.101	0.301	1.520	0.074	2.777	0.186
y2003	0.978	0.729	0.937	0.214	1.109	0.259	1.728	0.018	1.763	0.463
y2004	0.988	0.849	0.940	0.236	1.099	0.304	1.464	0.099	2.392	0.263
y2005	1.074	0.060	0.925	0.003	1.020	0.595	1.083	0.521	0.840	0.581
y2006	1.065	0.024	0.979	0.452	1.049	0.216	1.111	0.281	2.172	0.015
Disabled	1.604	0.000	0.819	0.000	1.110	0.024	1.704	0.000	2.835	0.000
Aged 26-34	1.311	0.000	0.712	0.000	0.509	0.000	0.821	0.000	0.760	0.116
Aged 35+	0.923	0.000	0.293	0.000	0.158	0.000	0.284	0.000	0.362	0.000
Male	1.391	0.000	3.142	0.000	2.276	0.000	2.313	0.000	2.623	0.000
Black	0.587	0.000	0.701	0.000	0.954	0.071	1.261	0.000	2.040	0.006
Hispanic	0.276	0.000	0.872	0.000	0.435	0.000	0.842	0.006	1.355	0.265
Other Race	0.574	0.000	0.511	0.000	0.531	0.000	0.585	0.000	0.604	0.181
At most High School Grad	0.813	0.000	1.150	0.000	0.919	0.003	0.787	0.000	0.619	0.021
Some College	0.621	0.000	1.160	0.000	0.916	0.004	0.716	0.000	0.611	0.053
College Graduate	0.252	0.000	0.902	0.000	0.662	0.000	0.546	0.000	0.241	0.001
Income: 10-20,000	0.954	0.090	0.782	0.000	0.817	0.000	0.734	0.000	0.505	0.008
Income: 20-30,000	0.981	0.476	0.781	0.000	0.715	0.000	0.573	0.000	0.370	0.001
Income: 30-40,000	0.958	0.183	0.811	0.000	0.679	0.000	0.581	0.000	0.395	0.006
Income: 40-50,000	0.893	0.000	0.813	0.000	0.635	0.000	0.555	0.000	0.331	0.000
Income: 50-75,000	0.831	0.000	0.847	0.000	0.600	0.000	0.515	0.000	0.365	0.003
Income: 75,000+	0.716	0.000	0.902	0.000	0.587	0.000	0.422	0.000	0.467	0.016
Large MSA, yr<2005	0.967	0.175	1.145	0.000	1.639	0.000	1.813	0.000	2.028	0.104
Small MSA, yr<2005	0.995	0.842	1.128	0.001	1.453	0.000	1.532	0.000	1.225	0.641
Large CBSA, yr>=2005	0.892	0.040	1.137	0.005	1.715	0.000	2.814	0.000	4.851	0.015
Small CBSA, yr>=2005	0.968	0.576	1.077	0.044	1.418	0.000	2.220	0.000	2.163	0.229
Group Test: Trend_0207, df=1		0.623		0.102		0.224		0.044		0.204
Group Test: Age, df=2		0.000		0.000		0.000		0.000		0.000
Group Test: Race, df=3		0.000		0.000		0.000		0.000		0.010
Group Test: Education, df=3		0.000		0.000		0.000		0.000		0.007
Group Test: Income, df=6		0.000		0.000		0.000		0.000		0.006
Group Test: Urbanicity, df=4		0.022		0.000		0.000		0.000		0.001

Odds Ratios and p-values from 16-Year Weighted Logistic Models Estimated using NHSDA/NSDUH Data										
Description	Analgesic		Tranquilizer		Stimulant		Sedative		Psycho therapeutic	
	Odds	p-value	Odds	p-value	Odds	p-value	Odds	p-value	Odds	p-value
Intercept		0.000		0.000		0.000		0.000		0.000
y1991	0.248	0.000	0.583	0.018	0.691	0.208	2.669	0.082	0.465	0.000
y1992	0.279	0.000	0.441	0.001	0.573	0.055	2.438	0.118	0.374	0.000
y1993	0.259	0.000	0.318	0.000	0.776	0.386	1.859	0.327	0.388	0.000
y1994	0.264	0.000	0.591	0.046	0.767	0.362	0.762	0.664	0.366	0.000
y1995	0.206	0.000	0.490	0.035	0.918	0.782	1.439	0.560	0.376	0.000
y1996	0.326	0.000	0.587	0.040	0.863	0.594	0.781	0.686	0.447	0.000
y1997	0.265	0.000	0.452	0.001	0.620	0.098	0.647	0.486	0.358	0.000
y1998	0.291	0.000	0.377	0.000	0.660	0.184	0.633	0.489	0.344	0.000
y1999	0.439	0.000	0.600	0.009	1.072	0.767	0.744	0.645	0.536	0.000
y2000	0.473	0.000	0.595	0.012	0.837	0.477	0.608	0.409	0.547	0.000
y2001	0.590	0.000	0.848	0.404	1.203	0.447	0.975	0.964	0.677	0.001
y2002	0.739	0.012	1.023	0.907	1.435	0.133	1.518	0.459	0.874	0.230
y2003	0.786	0.050	1.040	0.835	1.306	0.249	1.070	0.912	0.881	0.265
y2004	0.724	0.007	0.924	0.662	1.364	0.165	0.811	0.729	0.821	0.075
y2005	0.873	0.047	1.067	0.537	1.030	0.845	0.777	0.440	0.941	0.366
y2006	0.969	0.629	0.938	0.595	1.129	0.409	1.229	0.517	0.991	0.879
Disabled	1.510	0.000	1.875	0.000	1.298	0.041	1.758	0.004	1.499	0.000
Aged 26-34	0.633	0.000	0.689	0.000	0.585	0.000	0.831	0.185	0.674	0.000
Aged 35+	0.248	0.000	0.301	0.000	0.230	0.000	0.465	0.000	0.279	0.000
Male	1.275	0.000	1.081	0.182	1.435	0.000	1.098	0.432	1.230	0.000
Black	0.640	0.000	0.288	0.000	0.273	0.000	0.696	0.031	0.513	0.000
Hispanic	0.621	0.000	0.416	0.000	0.488	0.000	0.532	0.001	0.591	0.000
Other Race	0.635	0.000	0.400	0.000	0.770	0.054	0.651	0.062	0.612	0.000
At most High School Grad	0.784	0.000	0.816	0.014	0.846	0.057	0.558	0.000	0.829	0.000
Some College	0.744	0.000	0.763	0.000	0.805	0.012	0.701	0.087	0.792	0.000
College Graduate	0.513	0.000	0.570	0.000	0.479	0.000	0.606	0.017	0.570	0.000
Income: 10-20,000	0.941	0.360	0.886	0.242	0.889	0.296	0.878	0.554	0.922	0.162
Income: 20-30,000	0.779	0.001	0.734	0.004	0.555	0.000	0.446	0.000	0.718	0.000
Income: 30-40,000	0.781	0.000	0.725	0.002	0.601	0.000	0.439	0.001	0.743	0.000
Income: 40-50,000	0.735	0.000	0.556	0.000	0.615	0.000	0.459	0.013	0.672	0.000
Income: 50-75,000	0.770	0.000	0.653	0.000	0.500	0.000	0.642	0.104	0.711	0.000
Income: 75,000+	0.759	0.000	0.563	0.000	0.481	0.000	0.465	0.005	0.665	0.000
Large MSA, yr<2005	1.359	0.000	1.368	0.003	1.130	0.284	1.125	0.527	1.330	0.000
Small MSA, yr<2005	1.322	0.000	1.294	0.016	1.288	0.034	1.249	0.252	1.320	0.000
Large CBSA, yr>=2005	1.155	0.158	1.457	0.038	1.478	0.071	1.286	0.596	1.285	0.016
Small CBSA, yr>=2005	1.089	0.399	1.171	0.320	1.287	0.245	1.272	0.651	1.143	0.179
Group Test: Trend_0207, df=1		0.007		0.977		0.145		0.910		0.148
Group Test: Age, df=2		0.000		0.000		0.000		0.000		0.000
Group Test: Race, df=3		0.000		0.000		0.000		0.001		0.000
Group Test: Education, df=3		0.000		0.000		0.000		0.003		0.000
Group Test: Income, df=6		0.000		0.000		0.000		0.000		0.000
Group Test: Urbanicity, df=4		0.000		0.003		0.072		0.810		0.000