

May 2005

Appendices A and B for *Cost of Insuring California's Uninsured*

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Methods and Additional Exhibit

Appendix A:

Data Sources and Methods

The *Cost of Insuring California's Uninsured* policy brief is based on findings from the 2001 California Health Interview Survey (CHIS 2001) and the 1998-2000 Medical Expenditure Panel Surveys (MEPS). CHIS 2001, the largest health survey conducted in any state, covers a broad range of public health concerns, including health status and condition, health-related behaviors, health insurance coverage and access to health care services. CHIS 2001 completed interviews with 55,428 adults, 5,801 adolescents ages 12-17, and 12,592 parents of young children ages 0-11.

This analysis also used 1998-2000 data from the Medical Expenditure Panel Survey (MEPS). MEPS data are collected by the Agency for Health Care Research and Quality (AHRQ) and include information on the direct expenditures by individuals for personal health care services. For information on MEPS, please visit www.meps.abrq.gov.

We used MEPS to develop predictions for five population groups: 1) children insured all year; 2) children uninsured part or all of the year; 3) adults insured the entire year; 4) adults uninsured part of the year; and 5) adults uninsured all year. CHIS demographic and health status data from 2001 were then applied to the MEPS models to estimate the level of expenditures for each of these groups.

In a previous policy brief, *Estimating the Cost of Caring for California's Uninsured*, we developed a model using CHIS 2001 and MEPS data to provide estimates of the amount of money spent on direct services provided to both insured and uninsured individuals by various private and governmental programs (including public and private insurance for those who are insured) and by individuals on their own behalf. Total direct expenditures on services provided to the uninsured were estimated at \$7.4 billion in 2004 dollars.

This policy brief follows up on this research by making county and regional projections of health care spending—based on the MEPS utilization data—and applying



The California Endowment funded the research and development of this policy brief.



the models to the county population characteristics. This approach enables us to calculate direct expenditures for 41 regions (i.e., counties or county groups) in California, projected to 2005 dollars. We were unable to develop county-specific estimates for all 58 counties in California due to small sample sizes of CHIS respondents in some of the smaller counties in the state. These low-population counties have been aggregated into larger county groups. In this study, we used more refined methods for calculating direct expenditures by both the insured and uninsured in California. Instead of using averages, as done in our previous study, we estimated expenditures at the individual person level and then aggregated the individual expenditure estimates (inflated to 2005 dollars).

Indirect expenditures were collected for each county in California. The expenditures used in these estimates include indigent care programs that did not directly reimburse providers for patient care, such as Disproportionate Share Hospital (DSH) payments, Expanded Access to Primary Care (EAPC) and Section 330 Federal Grant funds. Other county and local programs were counted as well—if they did not directly reimburse for services—which would have already been captured in the MEPS analysis.

Within each group, we developed total direct expenditure estimates for individuals with and without inpatient stays, then aggregated total expenditures within each of the five groups and adjusted to 2005 dollars using the same inflation calculations employed in inflating the direct expenditures from 1998-2000 dollars.¹ Total direct expenditures were

calculated by applying coefficients obtained from the predicted expenditure models created using MEPS to the 2001 CHIS population. Comparable variables in MEPS and CHIS were constructed and used for the sake of estimate reliability. Health status, age, insurance status, ethnicity, employment and various other variables were used. We then totaled up all of the direct expenditure predictions and sorted by region to obtain the rest of the information presented in this brief. We obtained estimates of the cost of insuring California's uninsured population by substituting the demographics and usage patterns of the uninsured population into the models for insured adults and children. This assumes that the uninsured will have the same use and expenditure pattern as the insured, controlling for differences in their demographic characteristics, including health status, income, age, gender and employment status.

Notes

- 1 K Levit, C Smith, C Cowan, A Sensenig, A Carlin. Health Spending Rebound Continues in 2002. *Health Affairs*, January/February 2004, 23(1): 147-159.

Citation

GF Kominski, DH Roby and JR Kincheloe. Appendices A and B for *Cost of Insuring California's Uninsured*. Los Angeles: UCLA Center for Health Policy Research, 2005

Appendix B:

Appendix for Exhibit 1

Regional Direct, Indirect and Projected Health Care Spending on Behalf of the Uninsured with Mean Values and 95% Confidence Intervals, Ages 0 to 64, California 2005*

Regional County Group**	Number Uninsured in Each County (2001)	Current Indirect Subsidies (millions)	Number Uninsured in Each Regional County Group (2001)	Current Indirect Subsidies in Each Regional Group (millions)	Current Direct Expenditures – Mean (millions)	Current Direct Expenditures – LCL (millions)	Current Direct Expenditures – UCL (millions)	Total Current Spending – Mean (millions)	Total Current Spending – LCL (millions)	Total Current Spending – UCL (millions)	Total Projected Expenditures (millions)	Difference from Current Spending – Mean (millions)	Difference from Current Spending – LCL (millions)	Difference from Current Spending – UCL (millions)	Percent Difference Between Projected and Current Spending (Mean)***	Percent Difference Between Projected and Current Spending (LCL)***	Percent Difference Between Projected and Current Spending (UCL)***
Formulas	A	B	C	D	E	F	G	H = D + E	I = D + F	J = D + G	K	L = K – E	M = K – F	N = K – G	O	P	Q
Alameda	177,000	\$160	177,000	\$160	\$237	\$227	\$247	\$397	\$387	\$407	\$369	-\$27	-\$17	-\$37	-6.9%	-4.5%	-9.1%
Butte	35,000	\$16	35,000	\$16	\$60	\$59	\$62	\$77	\$75	\$78	\$76	-\$1	\$0	-\$2	-1.1%	0.6%	-2.6%
Contra Costa	92,000	\$55	92,000	\$55	\$158	\$153	\$164	\$214	\$208	\$219	\$212	-\$1	\$4	-\$7	-0.7%	1.9%	-3.1%
El Dorado	28,000	\$11	28,000	\$11	\$42	\$41	\$44	\$53	\$51	\$55	\$55	\$2	\$4	\$0	3.7%	7.0%	0.6%
Fresno	159,000	\$85	159,000	\$85	\$247	\$240	\$253	\$332	\$325	\$338	\$355	\$24	\$30	\$17	7.2%	9.3%	5.1%
Humboldt	21,000	\$13	25,000	\$16	\$32	\$31	\$33	\$48	\$47	\$49	\$34	-\$13	-\$12	-\$14	-27.9%	-26.3%	-29.5%
Del Norte	4,000	\$3	25,000	\$16	\$32	\$31	\$33	\$48	\$47	\$49	\$34	-\$13	-\$12	-\$14	-27.9%	-26.3%	-29.5%
Imperial	29,000	\$18	29,000	\$18	\$60	\$59	\$62	\$78	\$77	\$79	\$99	\$21	\$22	\$20	26.8%	28.6%	25.0%
Kern	141,000	\$97	141,000	\$97	\$183	\$178	\$188	\$281	\$276	\$285	\$249	-\$32	-\$27	-\$37	-11.4%	-9.8%	-12.9%
Kings	21,000	\$9	21,000	\$9	\$38	\$36	\$39	\$47	\$46	\$48	\$55	\$9	\$10	\$8	18.6%	21.3%	15.9%
Los Angeles	2,176,000	\$1,313	2,176,000	\$1,313	\$3,242	\$3,166	\$3,318	\$4,555	\$4,479	\$4,631	\$5,028	\$473	\$549	\$397	10.4%	12.3%	8.6%
Madera	26,000	\$15	26,000	\$15	\$38	\$37	\$39	\$53	\$52	\$54	\$63	\$10	\$11	\$9	19.3%	21.3%	17.3%
Marin	24,000	\$11	24,000	\$11	\$51	\$50	\$52	\$62	\$60	\$63	\$65	\$3	\$4	\$2	4.6%	6.8%	2.4%
Mendocino	17,000	\$12	29,000	\$17	\$40	\$39	\$41	\$57	\$56	\$59	\$55	-\$3	-\$1	-\$4	-4.4%	-2.1%	-6.6%
Lake	12,000	\$5	29,000	\$17	\$40	\$39	\$41	\$57	\$56	\$59	\$55	-\$3	-\$1	-\$4	-4.4%	-2.1%	-6.6%
Merced	44,000	\$30	44,000	\$30	\$55	\$53	\$56	\$85	\$83	\$86	\$65	-\$20	-\$19	-\$22	-23.7%	-22.5%	-25.0%
Monterey	97,000	\$43	97,000	\$48	\$205	\$200	\$209	\$253	\$249	\$257	\$282	\$29	\$34	\$25	11.7%	13.6%	9.7%
San Benito	5	\$5	97,000	\$48	\$205	\$200	\$209	\$253	\$249	\$257	\$282	\$29	\$34	\$25	11.7%	13.6%	9.7%
Napa	19,000	\$8	19,000	\$8	\$31	\$30	\$32	\$39	\$38	\$40	\$44	\$5	\$6	\$4	12.9%	15.6%	10.3%
Nevada	14,000	\$9	19,000	\$8	\$31	\$30	\$32	\$39	\$38	\$40	\$44	\$5	\$6	\$4	12.9%	15.6%	10.3%
Plumas	3,000	\$2	18,000	\$11	\$28	\$27	\$28	\$39	\$38	\$40	\$37	-\$2	-\$2	-\$3	-6.0%	-4.5%	-7.6%
Sierra	1,000	\$0.3	18,000	\$11	\$28	\$27	\$28	\$39	\$38	\$40	\$37	-\$2	-\$2	-\$3	-6.0%	-4.5%	-7.6%
Orange	559,000	\$245	559,000	\$245	\$1,008	\$989	\$1,027	\$1,253	\$1,234	\$1,272	\$1,416	\$164	\$183	\$144	13.1%	14.8%	11.4%
Placer	21,000	\$12	21,000	\$12	\$31	\$29	\$34	\$44	\$41	\$46	\$39	-\$4	-\$2	-\$7	-10.0%	-4.3%	-15.1%
Riverside	319,000	\$186	319,000	\$186	\$517	\$507	\$528	\$704	\$693	\$714	\$814	\$111	\$121	\$100	15.7%	17.4%	14.1%
Sacramento	171,000	\$77	171,000	\$77	\$284	\$277	\$291	\$361	\$353	\$368	\$346	-\$15	-\$7	-\$22	-4.0%	-2.1%	-5.9%
San Bernadino	335,000	\$213	335,000	\$213	\$540	\$529	\$552	\$754	\$742	\$765	\$916	\$163	\$175	\$151	21.6%	23.5%	19.8%
San Diego	510,000	\$257	510,000	\$257	\$821	\$804	\$838	\$1,078	\$1,061	\$1,095	\$1,044	-\$33	-\$16	-\$50	-3.1%	-1.5%	-4.6%
San Francisco	137,000	\$101	137,000	\$101	\$175	\$167	\$184	\$276	\$268	\$285	\$219	-\$57	-\$48	-\$65	-20.6%	-18.1%	-23.0%
San Joaquin	97,000	\$61	97,000	\$61	\$205	\$201	\$209	\$266	\$262	\$270	\$287	\$21	\$25	\$17	7.9%	9.5%	6.3%
San Luis Obispo	39,000	\$24	39,000	\$24	\$65	\$63	\$67	\$89	\$87	\$90	\$97	\$8	\$10	\$6	9.4%	11.8%	7.1%
San Mateo	73,000	\$44	73,000	\$44	\$96	\$92	\$100	\$140	\$136	\$144	\$128	-\$12	-\$8	-\$16	-8.7%	-6.1%	-11.2%
Santa Barbara	86,000	\$32	86,000	\$32	\$113	\$110	\$116	\$145	\$142	\$148	\$146	\$2	\$4	-\$1	1.0%	3.1%	-0.9%
Santa Clara	210,000	\$149	210,000	\$149	\$247	\$237	\$256	\$396	\$386	\$406	\$320	-\$76	-\$66	-\$85	-19.1%	-17.0%	-21.0%
Santa Cruz	46,000	\$21	46,000	\$21	\$88	\$86	\$91	\$109	\$107	\$112	\$105	-\$4	-\$2	-\$7	-3.9%	-1.5%	-6.2%
Shasta	28,000	\$18	28,000	\$18	\$40	\$39	\$41	\$59	\$58	\$60	\$54	-\$4	-\$3	-\$5	-7.6%	-6.0%	-9.2%
Siskiyou	10,000	\$3	28,000	\$18	\$40	\$39	\$41	\$59	\$58	\$60	\$54	-\$4	-\$3	-\$5	-7.6%	-6.0%	-9.2%
Lassen	3,000	\$5	17,000	\$9	\$24	\$23	\$24	\$33	\$32	\$34	\$39	\$6	\$7	\$5	18.7%	22.1%	15.5%
Modoc	1,000	\$1	17,000	\$9	\$24	\$23	\$24	\$33	\$32	\$34	\$39	\$6	\$7	\$5	18.7%	22.1%	15.5%
Trinity	3,000	\$1	17,000	\$9	\$24	\$23	\$24	\$33	\$32	\$34	\$39	\$6	\$7	\$5	18.7%	22.1%	15.5%

Appendix B:

Appendix for Exhibit 1 (continued)

Regional Direct, Indirect and Projected Health Care Spending on Behalf of the Uninsured with Mean Values and 95% Confidence Intervals, Ages 0 to 64, California 2005*

Regional County Group**	Number Uninsured in Each County (2001)	Current Indirect Subsidies (millions)	Number Uninsured in Each Regional County Group (2001)	Current Indirect Subsidies in Each Regional Group (millions)	Current Direct Expenditures – Mean (millions)	Current Direct Expenditures – LCL (millions)	Current Direct Expenditures – UCL (millions)	Total Current Spending – Mean (millions)	Total Current Spending – LCL (millions)	Total Current Spending – UCL (millions)	Total Projected Expenditures (millions)	Difference from Current Spending – Mean (millions)	Difference from Current Spending – LCL (millions)	Difference from Current Spending – UCL (millions)	Percent Difference Between Projected and Current Spending (Mean)***	Percent Difference Between Projected and Current Spending (LCL)***	Percent Difference Between Projected and Current Spending (UCL)***
Formulas	A	B	C	D	E	F	G	H = D + E	I = D + F	J = D + G	K	L = K – E	M = K – F	N = K – G	O	P	Q
Solano	37,000	\$15	37,000	\$15	\$54	\$51	\$56	\$68	\$66	\$71	\$79	\$10	\$13	\$8	15.1%	19.4%	11.2%
Sonoma	68,000	\$32	68,000	\$32	\$88	\$85	\$91	\$120	\$117	\$122	\$119	-\$0.4	\$2	-\$3	-0.3%	2.1%	-2.6%
Stanislaus	72,000	\$37	72,000	\$37	\$124	\$121	\$127	\$161	\$158	\$163	\$172	\$11	\$14	\$8	6.8%	8.7%	5.0%
Sutter	12,000	\$10	23,000	\$16	\$50	\$49	\$52	\$66	\$65	\$68	\$76	\$9	\$10	\$8	13.8%	15.9%	11.8%
Yuba	11,000	\$6															
Tehama	9,000	\$6															
Glenn	8,000	\$3	20,000	\$10	\$26	\$25	\$26	\$36	\$35	\$36	\$39	\$3	\$4	\$2	8.7%	10.9%	6.5%
Colusa	3,000	\$2															
Tuolumne	10,000	\$5															
Calaveras	5,000	\$4															
Amador	4,000	\$3															
Inyo	3,000	\$2	26,000	\$16	\$67	\$65	\$68	\$83	\$82	\$84	\$70	-\$13	-\$11	-\$14	-15.2%	-14.0%	-16.4%
Mariposa	2,000	\$2															
Mono	1,000	\$1															
Alpine	1,000	\$0.1															
Tulare	94,000	\$41	94,000	\$41	\$185	\$181	\$189	\$226	\$222	\$230	\$227	\$1	\$5	-\$3	0.5%	2.3%	-1.3%
Ventura	140,000	\$62	140,000	\$62	\$200	\$195	\$205	\$262	\$257	\$267	\$317	\$54	\$59	\$49	20.7%	23.1%	18.4%
Yolo	24,000	\$10	24,000	\$10	\$29	\$28	\$30	\$39	\$38	\$40	\$61	\$22	\$23	\$21	56.2%	60.6%	52.1%
Total	6,292,000	\$3,609	6,292,000	\$3,609	\$9,823	\$9,579	\$10,067	\$13,433	\$13,189	\$13,677	\$14,275	\$842	\$1,086	\$599	6.3%	8.2%	4.4%

Source: 2001 California Health Interview Survey and the 1998-2000 Medical Expenditure Panel Survey

Notes:

LCL - Lower 95% Confidence Level

UCL - Upper 95% Confidence Level

* Dollar amounts were inflated to 2005 dollars based on inflation factors from K Levit, C Smith, C Cowan, A Sosenig, A Catlin. Health Spending Rebound Continues in 2002. *Health Affairs*, January/February 2004.

** The regional county group totals represent aggregated data for all counties in the group, which are represented by shading.

*** A positive value in the columns for total and percent difference indicates the additional money necessary to provide insurance to all of the uninsured in the county. The methodology for these estimates can be found at www.healthpolicy.ucla.edu/cost_methods_2005.html.