Psychometric Analyses of Survey to **Assess Parental Perceptions of Their** Children's Dental Care in the **California Healthy Families Program Ron D. Hays** October 24, 2003 (12:00-12:55 pm)

## Consumer Assessment of Health Plans Study (CAHPS®)

Funded by AHRQ and CMS (10/95->9/00; 6/02->5/07)

Consortium of AIR, Harvard Medical School, Penn State, RAND, UCLA, and Westat

Surveys (consumer reports about care), reporting formats, implementation handbook

www.ahrq.gov/qual/cahpsix.htm

## CAHPS® Design Principles

Provide information consumers say they want and need to help select a health plan.

Collect information for which the consumer is the best or only source.

Develop core items applicable to everyone.

Develop a smaller set of supplemental items to address needs of specific populations

## CAHPS® Data Available to Over 100 million Americans

9 million federal employees (Office of Personnel Management; <u>www.opm.gov</u>)

70 million in plans reported to NCQA (www.ncqa.org)

39 million on Medicare (<u>www.medicare.gov</u>)

Other CAHPS® sponsors (www.ahrq.gov/qual/cahpsix.htm)

### **CAHPS® Surveys**

- Standardized survey instruments.
  - Reports about health care.
  - Ratings of health care.
- Adult and child survey versions.
- Spanish and English survey versions.
- Phone and mail modes.

### **Global Rating Item**

Using any number from 0-10 where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your health care in the last 12 months?



**Reports about Care (17 items)** 

Getting needed care (4)

Getting care quickly (4)

How well doctors communicate (4)

Courtesy, respect, helpfulness of office staff (2)

**Customer service and information from plan (3)** 

### **CAHPS® II** Directions

QI

Health plan, physician group, individual provider Hospital, ESRD, nursing home People with mobility impairments Behavioral health, chiropractic, dental care

### **CAHPS® Dental Care Project**

Coauthors: Brown, J., Brown, L. U., Spritzer, K. L., & Crall, J. J. Submitted to special issue of <u>Medical Care</u> on measurement in a multi-ethnic society.

DataStat hired by California Managed Risk Medical Insurance Board to collect data. Survey analyses supported by a grant from the Health Resources and Services Administration (UCLA grant #02-713-01) and grant number 5 U18 HS00924 from AHRQ.

http://www.mrmib.ca.gov/

### **CAHPS® Dental Care Survey**

**Global ratings** 

**Dental care** 

**Dental plan** 

**Report composites** 

Getting needed care, Getting care quickly, Communication with dental providers, Office staff, and Customer service

### **Getting Needed Care (4)**

5: problem finding office or clinic
12: problem getting referral to specialist
25: problem getting care believed necessary
26: problem with delays in getting care

## Getting care quickly (5)

- 16: got help or advice needed
- 18: got appointment for cavity as soon as wanted
- 20: got appointment for routine care as soon as wanted
- 22: care for mouth pain or dental problem
- 27: wait in office more than 15 minutes

### **Communication with Dental Providers (10)**

- 30: dentists or other dental providers listen carefully
- 32: dentists or other dental providers explained things
- 33: dentists or other dental providers show respect
- 38: dentists or other dental providers explained things to child
- 39: dentists or dental providers spent enough time with your child

## **Communication with Dental Providers (con't)**

- <u>31: hard time speaking with dentists or other dental</u> providers
- <u>32b: got interpreter when you needed one</u>
- 32d: child got interpreter when he/she needed one
- 35: in exam room with child
- <u>37: child had hard time speaking with dentists or other</u> dental providers

### **Dental office staff (2)**

 28: Staff treated you and your child with courtesy and respect

• 29: Staff was helpful

### **Dental plan customer service (3)**

• 47: problem understanding written materials

 49: problem getting help from customer service

• 51: problem with paperwork

### Sample Design

Parents of children enrolled in the Healthy Families Program in 2001 and 2002

Children ages 4-18 enrolled continuously in dental plan for 12 months or longer

**5** dental plans

Mail survey methodology (8-week data collection)

Surveys completed in English (45%), Spanish (46%), Chinese (3%), or either Korean or Vietnamese (5%).

ļr	File	Edit View	Favori	tes Loois	нер							
] <	🔁 Bac	ck 🔹 🔿 🚽	8	ି 🗳 🛛 🔍 ୨୦	earch 🛛 😹 Fa	worites 🍘 Media 🤅	3 B- 3 B	n - 📄 😽				
Ac	ddress	: 🙆 http://	www.mrn	hib.ca.gov/							•	] ∂Go
Lir	nks 🤰	👷 Yahoo! M	ail 😗	Yahoo! News	Yahoo!	Customize Links	ど Free Hotmail	My Yahoo!	Conline Computing Help	desk 🛛 🙆 RAND Internal Home Pag	e 🕘 RAND	>
] `	<u>Y!</u>	Ø.			Search 🗸	Sign In 🔻 🖂 Mail	l 🔹 💽 Games 🔹	🖉 News 👻	🖑 Baseball 👻 🏆 Yahoo	! 👻 🪳 My Yahoo!  👸 Shopping	🝷 🚯 LAUNCH	• »

#### <u>The Healthy Families</u> <u>Program (HFP)</u>

- HFP Notice of Privacy
   Practices
- HFP Application
- HFP Monthly
   Enrollment Reports
- HFP Regulations
- <u>HFP Traditional &</u> <u>Safety Net Provider</u> Listings and Appeals
- HFP Parent 1115
   Waiver Proposal
- Special Reports
- Information to Plans
- Health-e-App
- <u>CCS Paneled and</u> <u>Approved Providers</u>

The Major Risk Medical Insurance Program (MRMIP) Hand Book

- MRMIP Notice of Privacy Practices
- MRMIP Application
- KADRAID D. .........

e

The MRMIB was created in 1990 with a broad mandate to advise the Governor and the Legislature on strategies for reducing the number of uninsured persons in the state. The Board is comprised of volunteer members appointed by the Governor and the Legislature. Members serve four year terms. The MRMIB is dedicated to improving the health of Californians by increasing access to affordable, comprehensive, quality health care coverage. The MRMIB meets in public session, usually on the fourth Wednesday of each month.

The MRMIB administers three health care programs. They are:

- <u>The Access for Infants and Mothers (AIM)</u> program provides low cost health insurance coverage to uninsured, low income pregnant women and their infants. AIM is part of California's efforts to increase health coverage of pregnant women and their infants. The average subscriber is a married woman, living in a household with a family income between 200-300% of the federal poverty level. A pregnant woman and her infant(s) enrolled in AIM receive their care from one of nine health plans participating in the program. The pregnant woman participates in the cost of her health care services through a low cost subscriber contribution. The State of California supplements the subscriber contribution to cover the full cost of care. AIM is funded from tobacco tax funds. For an application: Call toll free 1-800-433-2611.
- <u>The Healthy Families Program (HFP)</u> provides low cost health, dental and vision coverage to uninsured children in low wage families. Families participating in the program choose their health, dental and vision plan. Families pay premiums of \$4-\$9 per child per month (maximum of \$27 per family) to participate in the program. The State and Federal government provide funding to the HFP for an application: call toll free 1 888-747-1222.
- <u>The Major Risk Medical Insurance Program (MRMIP</u>) provides health insurance for Californians who are unable to obtain coverage in the individual health insurance market. The majority of subscribers are women between the ages of 40-59 who are enrolled in the

🙆 Internet

### **Participation Rate**

### 2001 Survey: 2536 surveys (50%)

### - 461-568 surveys per plan

### 2002 Survey: 2232 surveys (46%)

- 402-496 surveys per plan

### **Characteristics of Participants**

52% of children were male; 63% Hispanic, 12% Asian, 2% Black, 20% non-Hispanic white, 3% other

Median age was 9

Excellent (17%), very good (29%), good (33%), fair (17%), poor (3%) health

72% of parental respondents were female; 48% 35-44 years old, 32% 25-34, and 15% 45-54

### **Analysis Plan**

- **Item-scale correlations**
- **Internal consistency reliability**
- Health plan level reliability
- Score distributions (% floor, ceiling)
- **Communication scale**

-- Unidimensionality, item difficulties and discrimination, model fit

#### Table 1: Item-Scale Correlations for Hypothesized Scales (n = 664, 2 or more items/scale)

item	mean	SD	need4	time5	comm10	staff2	serv3
<b>x</b> 5	63.58	34.14	0.40*	0.34	0.33	0.29	0.34
<b>x</b> 12	55.03	27.61	0.44*	0.24	0.22	0.21	0.29
<b>x</b> 25	69.74	36.85	0.57*	0.48	0.46	0.50	0.41
<b>x</b> 26	75.38	35.56	0.43*	0.28	0.28	0.27	0.30
<b>x16</b>	66.94	27.22	0.43	0.56*	0.54	0.58	0.27
<b>x18</b>	59.58	30.83	0.37	0.63*	0.45	0.47	0.24
<b>x</b> 20	62.54	32.34	0.38	0.66*	0.52	0.50	0.25
<b>x</b> 22	57.75	22.95	0.38	0.49*	0.34	0.39	0.23
<b>x</b> 27	54.62	36.92	0.19	0.33*	0.41<-	0.41	0.16
<b>x</b> 30	71.37	31.34	0.43	0.60	0.69*	0.66	0.28
<b>rx31</b>	82.22	29.63	0.17	0.18	0.26*	0.16	0.21
<b>x</b> 32	70.47	32.76	0.33	0.49	0.66*	0.56	0.21
<b>x</b> 33	77.12	29.07	0.43	0.56	0.72*	0.65	0.29
<b>x</b> 35	66.64	35.52	0.18	0.23	0.26*	0.25	0.10
x37	91.17	18.91	0.09	0.10	0.19*	0.14	0.13
<b>x</b> 38	76.32	25.97	0.21	0.34	0.44*	0.35	0.17
x39	67.58	30.95	0.40	0.62	0.70*	0.63	0.29
x32b	73.87	15.42	0.23	0.22	0.29*	0.19	0.20
x32d	62.25	11.02	0.08	0.13	0.19*	0.10	0.13
<b>x</b> 28	77.93	28.37	0.39	0.57	0.61	0.78*	0.26
x29	70.25	30.73	0.47	0.66	0.68	0.78*	0.27
x47	72.57	29.46	0.38	0.25	0.28	0.19	0.46*
x49	69.50	31.90	0.39	0.25	0.25	0.24	0.40*
x51	81.14	24.26	0.28	0.21	0.25	0.20	0.39*

Note: need4 = getting needed care; time5 = getting care quickly; comm10 = communication with dental providers; staff2 = dental office staff; serv3 = dental plan customer service.

#### Table 2: Item-Scale Correlations for Hypothesized Scales (n = 1981, 1+item/scale)

item	mean	SD	need4	time5	comm10	staff2	serv3
<b>x</b> 5	68.41	32.64	0.36*	0.31	0.31	0.29	0.29
<b>x</b> 12	56.49	23.57	0.35*	0.19	0.18	0.17	0.23
<b>x</b> 25	75.49	35.08	0.55*	0.43	0.41	0.44	0.36
x26	81.93	31.78	0.43*	0.28	0.26	0.26	0.28
<b>x16</b>	66.98	22.13	0.36	0.49*	0.45	0.49	0.21
<b>x1</b> 8	60.34	26.08	0.33	0.58*	0.38	0.43	0.17
<b>x</b> 20	63.59	30.32	0.36	0.60*	0.45	0.48	0.18
x22	59.24	18.17	0.32	0.44*	0.29	0.34	0.17
<b>x</b> 27	56.76	36.36	0.22	0.31*	0.35<-	0.40	0.13
<b>x</b> 30	72.86	31.00	0.39	0.54	0.69*	0.67	0.22
<b>x</b> 31	84.39	28.05	0.17	0.21	0.31*	0.22	0.19
<b>x</b> 32	73.21	32.78	0.32	0.42	0.66*	0.55	0.20
<b>x</b> 33	79.84	27.66	0.39	0.50	0.69*	0.65	0.23
<b>x</b> 35	66.56	35.45	0.16	0.17	0.29*	0.21	0.10
<b>x</b> 37	92.15	17.97	0.09	0.09	0.15*	0.10	0.12
<b>x</b> 38	78.26	24.54	0.22	0.33	0.46*	0.36	0.17
x39	70.62	29.66	0.36	0.53	0.67*	0.61	0.24
<b>x</b> 32b	73.99	15.03	0.17	0.17	0.30*	0.20	0.12
x32d	62.46	10.18	0.10	0.11	0.22*	0.14	0.09
x28	79.90	27.66	0.37	0.53	0.60	0.75*	0.21
x29	72.73	30.24	0.44	0.61	0.67	0.75*	0.23
x47	75.40	24.47	0.32	0.19	0.26	0.18	0.31*
x49	68.83	25.04	0.32	0.16	0.18	0.16	0.28*
<b>x</b> 51	82.45	18.59	0.23	0.14	0.17	0.15	0.27*

Note: need4 = getting needed care; time5 = getting care quickly; comm10 = communication with dental providers; staff2 = dental office staff; serv3 = dental plan customer service.

item	mean	SD	need4	time5	comm5	staff2	serv3
<b>x</b> 5	63.54	34.21	0.39*	0.33	0.34	0.29	0.34
<b>x</b> 12	55.04	27.57	0.44*	0.24	0.21	0.21	0.29
<b>x</b> 25	69.83	36.83	0.57*	0.47	0.45	0.50	0.40
x26	75.46	35.53	0.43*	0.27	0.26	0.27	0.30
<b>x16</b>	66.94	27.17	0.43	0.56*	0.56	0.58	0.27
<b>x1</b> 8	59.45	30.89	0.37	0.63*	0.47	0.47	0.24
<b>x</b> 20	62.45	32.39	0.38	0.66*	0.54	0.50	0.25
<b>x</b> 22	57.77	22.92	0.38	0.49*	0.36	0.39	0.23
<b>x</b> 27	54.60	36.96	0.19	0.33*	0.42<-	0.41	0.16
<b>x</b> 30	71.31	31.43	0.42	0.60	0.73*	0.65	0.27
<b>x</b> 32	70.36	32.83	0.33	0.49	0.68*	0.56	0.21
<b>x</b> 33	77.12	29.03	0.42	0.56	0.75*	0.65	0.28
<b>x</b> 38	76.33	25.93	0.21	0.34	0.47*	0.35	0.17
x39	67.48	31.01	0.39	0.61	0.73*	0.63	0.30
<b>x</b> 28	77.95	28.35	0.39	0.57	0.63	0.78*	0.26
x29	70.24	30.68	0.47	0.66	0.72	0.78*	0.27
<b>x</b> 47	72.50	29.44	0.38	0.25	0.23	0.19	0.46*
x49	69.44	31.99	0.39	0.24	0.24	0.24	0.40*
<b>x</b> 51	81.14	24.22	0.28	0.21	0.22	0.20	0.39*
<b>x</b> 31	82.27	29.61	0.17	0.18	0.24	0.16	0.21
<b>x</b> 35	66.64	35.47	0.18	0.23	0.29	0.25	0.10
<b>x</b> 37	91.17	18.88	0.09	0.10	0.18	0.14	0.13
x32b	73.87	15.39	0.23	0.22	0.27	0.19	0.20
x32d	62.25	11.00	0.08	0.13	0.15	0.10	0.13

#### Table 3: Item-Scale Correlations for Revised Scales (n = 666)

Note: need4 = getting needed care; time5 = getting care quickly; comm5 = communication with dental providers; staff2 = dental office staff; serv3 = dental plan customer service.

#### Table 4: Item-Scale Correlations for Revised Scales (pairwise correlations)

item	need4	time5	comm5	staff2	serv3
x5	0.53*	0.35	0.35	0.33	0.35
x12	0.54*	0.29	0.32	0.28	0.36
x25	0.66*	0.41	0.41	0.43	0.37
x26	0.54*	0.26	0.25	0.26	0.29
x16	0.49	0.72*	0.66	0.68	0.30
x18	0.41	0.76*	0.53	0.54	0.20
x20	0.39	0.73*	0.51	0.51	0.20
x22	0.54	0.77*	0.58	0.61	0.28
rx27	0.22	0.54* <	->0.36	0.40	0.12
x30	0.39	0.53	0.76*	0.67	0.22
x32	0.32	0.42	0.69*	0.55	0.20
x33	0.39	0.48	0.76*	0.65	0.23
x38	0.27	0.40	0.66*	0.47	0.22
x39	0.36	0.53	0.73*	0.62	0.24
x28	0.37	0.53	0.65	0.75*	0.21
x29	0.43	0.60	0.72	0.75*	0.24
x47	0.41	0.24	0.28	0.23	0.79*
x49	0.42	0.23	0.24	0.22	0.74*
x51	0.36	0.21	0.23	0.23	0.74*
x31	0.18	0.22	0.28	0.22	0.19
x35	0.19	0.19	0.35	0.23	0.11
x37	0.11	0.12	0.18	0.13	0.15
x32b	0.35	0.36	0.59	0.43	0.18
x32d	0.29	0.38	0.63	0.47	0.21

Note: need4 = getting needed care; time5 = getting care quickly; comm5 = communication with dental providers; staff2 = dental office staff; serv3 = dental plan customer service.

### Variation in DCAHPS® Scores by Plan



Plan A
Plan B
Plan C
Plan D
Plan E

#### Table 5: Descriptive Statistics and Reliability Estimates (n = 4036)

	Number			olo	olo	Reliability	Alpha
Scale	of items	Mean	SD	Floor	Ceiling	(GRIP)	reliability
Global rating of	1	77.93	23.14	1.7	27.3	0.98	N/A
all dental care							
Global rating of	1	78.86	22.94	1.9	29.6	0.98	N/A
dental plan							
Getting needed	4	77.16	28.09	4.4	46.4	0.96	0.73
care							
Getting care	5	60.80	28.52	4.8	14.8	0.99	0.86
quickly							
Communication by	5	75.50	24.89	0.8	29.5	0.99	0.86
dental providers							
Office staff	2	77.85	26.67	2.3	46.7	0.99	0.85
Dental plan	3	75.69	30.39	6.2	53.6	0.87	0.75
customer service							

## **Intraclass Correlation and Reliability**

Model	Reliability	Intraclass Correlation	
One-Way	MS <sub>BMS</sub> - MS <sub>WMS</sub> MS <sub>BMS</sub>	MS <sub>BMS</sub> - MS <sub>WMS</sub> MS <sub>BMS</sub> + (K-1)MS <sub>WMS</sub>	
Two-Way Fixed	MS <sub>BMS</sub> - MS <sub>EMS</sub>	$\frac{\text{MS}_{\text{BMS}} - \text{MS}_{\text{EMS}}}{\text{MS}_{\text{EMS}} + (\text{K-1})\text{MS}_{\text{EMS}}}$	
Two-Way Random	N (MS BMS - MS EMS) NMS HMS - MS	$\frac{MS_{BMS} - MS_{EMS}}{MS_{BMS} + (K-1)MS_{EMS} + K(MS_{LMS} - MS_{LMS})/N}$	

## Fit Indices

• Normed fit index:  $\frac{\chi_{null} - \chi_{model}}{\chi_{null}^{2}} = \frac{\chi_{null}^{2} - \chi_{model}^{2}}{\chi_{null}^{2}}$ 

Non-normed fit index:

 $\frac{\chi_{null}^{2} - \chi_{model}^{2}}{df_{model}}$   $\frac{\chi_{null}^{2} - 1}{df}$ 

Comparative fit index:

$$1 - \begin{pmatrix} 2 \\ \chi_{model} - df_{model} \\ \chi_{Null}^{2} - df_{null} \end{pmatrix}$$

### **Unidimensionality Assumption**

One-factor categorical confirmatory factor analysis (MPLUS) for communication scale

 $\lambda^2 = 1747.80$ , n = 3346, df = 26, p < 0.001

CFI = 0.91

Average absolute residual = 0.05

Standardized factors loadings: 0.36->0.89

#### Table 6: Category Thresholds and Slope Estimates for Communication Scale (n = 4036)

Item	Category Threshold Parameter- Between Never and Sometimes	Category Threshold Parameter-Between Sometimes and Usually	Category Threshold Parameter- Between Usually and Always	Slope Parameter
x30	-1.71	-0.95	-0.03	3.50
x31	-3.60	-2.66	-1.23	0.90
x32	-1.69	-1.01	-0.16	2.55
x33	-1.95	-1.19	-0.32	3.97
x35	-2.24	-1.11	-0.31	0.73
x37	-5.20	-4.29	-2.35	0.77
x38	-1.96	-1.17	-0.18	2.07
x39	-1.89	-0.93	0.18	2.73
x32b	-2.14	-1.09	-0.39	1.85
x32d	-1.64	-0.81	-0.29	2.40

#### Table 7: Difference Between Observed and Expected Response Frequencies (Absolute Values) by Item and Response Category for Communication Scale

Item	Never	Sometimes	Usually	Always
x30	0.00	0.01	0.00	0.01
x31	0.00	0.00	0.00	0.00
x32	0.00	0.01	0.00	0.01
x33	0.00	0.00	0.01	0.01
x35	0.01	0.00	0.00	0.01
x37	0.00	0.00	0.01	0.01
x38	0.01	0.01	0.01	0.03
x39	0.00	0.01	0.00	0.00
x32b	0.01	0.03	0.02	0.06
x32d	0.06	0.08	0.02	0.16

The mean difference (absolute values) between the observed and expected response frequencies across all items and all response categories was 0.02 (SD = 0.03).

### Figure 1: Item Characteristic Curve for Item 30





### Figure 2: Item Characteristic Curve for Item 31



Category legendsItem: 21= Never 2= Sometimes 3= Usually 4= Always

### Figure 3: Item Characteristic Curve for Item 32b





#### Figure 4: Communication Scale Information and Measurement Error



### Conclusions

# Reword item 27 to being seen within 15 minutes

Use items 30, 32, 33, 38 and 39 for communication composite

Items 32b and 32d important when information about interpreter services needed

This noon seminar was supported in part by the UCLA/DREW Project EXPORT, National Institutes of Health, National Center on Minority Health & Health Disparities, (P20-MD00148-01) and the UCLA Center for Health Improvement in Minority Elders / Resource Centers for Minority Aging Research, National Institutes of Health, National Institute of Aging, (AG-02-004).

> **Resource Centers for Minority Aging Research**



### Selected CAHPS® Bibliography

- Farley, D. O., Elliott, M. N., Short, P. F., Damiano, P., Kanouse, D. E., & Hays, R. D. (2002). Impact of CAHPS performance information on health plan choices by Iowa Medicaid beneficiaries. <u>Medical Care Research</u> <u>and Review</u>, 59, 319-336.
- Farley, D.O., Short, P. F., Elliott, M. N., Kanouse, D. E., Brown, J. A., & Hays, R. D. (2002). Effects of CAHPS health plan performance on plan choices by New Jersey Medicaid beneficiaries. <u>Health Services Research</u>, <u>37</u>, 985-1007.
- Hargraves, J. L., Hays, R.D., & Cleary, P.D. (2003). Psychometric properties of the Consumer Assessment of Health Plans Study (CAHPS®) 2.0 adult core survey. <u>Health Services Research</u>, <u>38</u>, xx-yy.
- Hays, R.D., Chong, K., Brown, J., Spritzer, K.L., & Horne, K. (2003). Patient reports and ratings of individual physicians: An evaluation of the DoctorGuide and CAHPS provider-level surveys. <u>American Journal of</u> <u>Medical Quality</u>, <u>18</u> (5), 190-196.
- Morales, L. S., Weech-Maldonado, R., Elliott, M.N., Weidmer, B., & Hays, R. D. (2003). Psychometric properties of the Spanish Consumer Assessment of Health Plans Survey (CAHPS). <u>Hispanic Journal of Behavioral</u> <u>Sciences.</u>, 25 (3), 386-409.
- Weech-Maldonado, R., Morales, L. S., Elliott, M., Spritzer, K., Marshall, G. & Hays, R. D. (2003). Race/ ethnicity, language and patients' assessments of care in Medicaid managed care. <u>Health Services</u> <u>Research, 38</u> (3), 789-808.

<u>F</u> ile <u>E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ools <u>H</u> elp	
🛛 🖛 Back 🔻 🔿 🖌 🙆 🚰 🥘 Search 🕋 Favorites 🛞 Media 🧭 🛃 🥌 🥶 🗐 🗐 👹	
Address 🚳 http://iadr.confex.com/iadr/2004Hawaii/bscomb/papers/viewonly.cgi?username=47632&password=362129	▼ 🔗 Go
🛛 Links 🐄 Yahoo! Mail 🐄 Yahoo! News 🠄 Yahoo! 🍘 Customize Links 🍘 Free Hotmail 📓 My Yahoo! 🍘 Online Computing Helpdesk 🍘 RAND Internal Home Page 🚳 RA	ND »
🛛 🍸 🖉 🗸 👘 💽 Search 🕞 Sign In 🕞 🖂 Mail 👻 💀 Games 👻 🛷 News 👻 🏀 Baseball 👻 🥸 Yahoo! 👻 🎯 My Yahoo! 🦿 Shopping 👻 🖏 L	AUNCH 🔸 🚿
Paper #47032	
MARCH 10-13, 2004	

#### California SCHIP Caregivers' Perceptions of Dental Care

J.J. CRALL, Columbia University School of Dental and Oral Surgery, New York, NY, USA, J. BROWN, RAND Survey Research Group, Santa Monica, CA, USA, L.U. BROWN, Managed Risk Medical Insurance Board, Sacramento, CA, USA, K.L. SPRITZER, UCLA School of Medicine, Los Angeles, CA, USA, and R.D. HAYS, RAND Health Program, Santa Monica, CA, USA

Objective: We analyzed data obtained from California SCHIP enrollee caregivers using the Dental CAHPS® (DCAHPS®) beta consumer assessment survey instrument to assess relationships among composite scales and global ratings of dentists and dental plans (dependent variables) and variables reflecting provider and enrollee characteristics.

Methods: A sample of 4-18 year-old children continuously enrolled in five SCHIP dental plans for 12 months was drawn according to modified NCQA/CAHPS® 2.0H protocols. Surveys were mailed to caregivers in English, Spanish, Chinese, Korean or Vietnamese. Scores reflecting five domains (getting needed care, timeliness of care, communication, staff helpfulness, customer service) and global ratings of care (dentist, dental plan) were regressed on years in the plan, type of regular dentist, ER use, dental care use, survey language, child's reported dental health, presence of child emotional, developmental or behavioral problems, child's age, gender and race/ethnicity, and parent's age, gender and educational attainment.

Results: Data for 2001/2002, respectively, yielded 2536/2232 usable surveys (response rates: 50%/56%). The final pooled sample represented 4036 SCHIP child enrollees who used their plan for all or most of their dental care. The most consistent associations were that caregivers of children without a regular dentist and in worse dental health indicated more negative experiences and perceptions of dental care. Caregivers of children with more visits, white race, and parental education less than high school reported more positive experiences, while male parents reported more negative experiences and ratings about care. Spanish language respondents reported significantly more negative experiences with getting needed care and customer service, but rated dentists and plans more positively than English respondents.

Conclusions: This study revealed important differences in California SCHIP enrollee caregivers' perceptions of dental care associated with having a regular dentist, utilization, health, race, gender, language, and education. Supported by HRSA/MCHB CompCare (UCLA grant # 02-713-01) and NIH # P20-MD00148-01.

### Graded Response Model Boundary Response Functions

Cat 1 - Cat 2 Boundary : 
$$P_{i1}^{*}(\Theta) = \frac{\exp(\alpha_{i}(\Theta - \beta_{i1}))}{1 + \exp(\alpha_{i}(\Theta - \beta_{i1}))}$$
  
Cat 2 - Cat 3 Boundary :  $P_{i2}^{*}(\Theta) = \frac{\exp(\alpha_{i}(\Theta - \beta_{i2}))}{1 + \exp(\alpha_{i}(\Theta - \beta_{i2}))}$ 

### Graded Response Function Category Response Functions

Category 1:  $P_{i1}(\Theta) = 1.0 - P_{i1}^{*}(\Theta)$ Category 2:  $P_{i2}(\Theta) = P_{i1}^{*}(\Theta) - P_{i2}^{*}(\Theta)$ Category 3:  $P_{i2}(\Theta) = P_{i2}^{*}(\Theta)$ 

### Graded Response Function Item Response Function

### $IRF = P_{i1}(\Theta) * 1 + P_{i2}(\Theta) * 2 + P_{i3}(\Theta) * 3$