

# **Tab 0**

## **Impact of Cost Sharing**

**Healthy Kids Program Changes in State Fiscal Year 2003-2004  
Associations with Enrollee Case-Mix, Health Care Expenditures,  
and Disenrollment,**

**A Report to the Healthy Kids Corporation**

**Prepared By**

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## Introduction

Several changes were made to the Florida Healthy Kids Program in State Fiscal Year (SFY) 2003-2004 (July 1, 2003 through June 30, 2004). These changes included premium increases, increased copayments for some health care services, and the elimination of a waiting list to enter the Healthy Kids Program. Other changes also were made including an annual limit of \$750 on dental benefits.<sup>1,2</sup> Table 1 contains a summary of the premium, copayment, and waiting list changes, which are the focus of the current report.

**Table 1. Healthy Kids Program Changes in SFY 2003-2004**

Program Change Category	Description
Increased Premium	<ol style="list-style-type: none"> <li>1) July 1, 2003 – increased family share of the premium from \$15 per family per month to \$20 per family per month for all families receiving subsidized premiums.</li> <li>2) October 2003 – changes the premium amount back to \$15 per family per month for families at or below 150% of the federal poverty level (FPL) and kept premiums at \$20 per family per month for those families between 151 and 200% FPL.</li> <li>3) October 2003 – December 2003 – applied the extra premium amount paid from July through September by families at or below 150% FPL to the amount they owed.</li> <li>4) January 1, 2004 – premiums amounts stabilized.</li> </ol>
Waiting List Changes	<ol style="list-style-type: none"> <li>1) August 2003 - Florida submitted an amendment to the Center for Medicare and Medicaid Services seeking to place children in Medicaid and the Title XXI Medicaid Expansion Program who wanted to transfer to Title XXI on a waiting list as was the case with all other children awaiting entry into Title XXI when enrollment limits are reached. Prior to this amendment, children in Medicaid who became eligible for SCHIP coverage were allowed to automatically transfer between program components.</li> <li>2) March 2004 – Children on the waiting list were allowed to enroll and the waiting lists were eliminated. Florida now uses an open enrollment period at which time children may enroll until enrollment limits are reached. Families may reapply during future open enrollment periods if they are not able to enroll their children.</li> </ol>
Co-Payment Changes	The primary copayment change was an increase from \$3 to \$5 for acute care visits.



conditions (ACSCs).<sup>1</sup> ACSCs refer to those conditions that are not expected to result in inpatient or ER use if there is good access to care in the outpatient setting. ACSCs include:

1. Immunization preventable conditions such as pertussis, rheumatic fever, tetanus, polio, and hemophilus meningitis,
2. Chronic conditions such as asthma, diabetes with ketoacidosis or hyperosmolar coma, diabetes with specified manifestations, diabetes without specified complications, grand mal seizures, and hypoglycemia, and
3. Acute conditions such as cellulitis, dehydration, gastroenteritis, pneumonia, and kidney/urinary tract infections, ear, nose, and throat infections, ruptured appendix, and untyped conditions such as failure to thrive, congenital syphilis, and nutritional deficiency.

As part of the Florida Healthy Kids evaluation, the Institute for Child Health Policy (ICHP) was asked to evaluate the following:

- 1) The association between the program changes and disenrollment from the program and whether any of the observed relationships have changed from previous disenrollment analyses,
- 2) Changes in the enrollees' case-mix or health status and their per member per month, (PMPM) health care expenditures post the program changes, and
- 3) Changes in the percentage of enrollees with inpatient stays and emergency room (ER) visits for ambulatory care sensitive conditions (ACSCs).

Because these program changes occurred in the same year, it is not possible to disentangle the impact of specific changes on the outcomes of interest.

## Data Sources

The following data sources were used:

- 1) Enrollment files provided by the Healthy Kids Corporation. The enrollment files contain information about the child's age, gender, family income, and the number of months the child was enrolled in the program. This information was used to identify children's length of enrollment and disenrollment patterns.
- 2) Health care claims and encounter data submitted by all of the MCOs participating in the Florida Healthy Kids Program. The person-level claims/encounter data contain Physician's Current Procedural Terminology (CPT) codes and International Classification of Diseases, 9th Revision (ICD 9-CM) codes. Several different time frames for the claims and encounter data were used in the analyses. Data from July 1, 2002 through June 30, 2003 were used to characterize the children's disenrollment behaviors, health status, and health care expenditures prior to the program changes. Data from July 1, 2003 through March 31, 2004 were used to characterize the children's disenrollment behaviors,

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<sup>1</sup> Gaskin DJ, Hoffman C. Racial and ethnic differences in preventable hospitalizations across 10 states. *Medical Care Research and Review*. 2000;57(1):85-107.

health status, and health care expenditures post the program changes. Because the waiting list was not eliminated until March 2004, there is not a sufficient claims history to examine the impact of this change on the aforementioned variables of interest.

## Measures Used

*The Clinical Risk Groups (CRGs)* was used to classify enrollees' health status. This system classifies individuals into mutually exclusive clinical categories by reading ICD-9-CM diagnosis codes from all health care encounters, except those associated with providers known to frequently report unreliable codes (e.g., non-clinician providers and ancillary testing providers).<sup>5</sup> It assigns all diagnosis codes to a diagnostic category (acute or chronic) and body system, and assigns all procedure codes to a procedure category. Each individual is grouped to a hierarchically defined core health status group, and then to a CRG category and severity level, if chronically ill.

Chronic and acute illnesses are generally classified only if there has been at least two outpatient encounters for that diagnosis separated by at least a day. There are a few diagnoses that require only one outpatient encounter based diagnosis, and these include the codes for mental retardation, Down's Syndrome, blindness, and procedural codes such as chemotherapy and renal dialysis. Enrollees in the program for 6 months or longer are included in the analyses. Some continuity of enrollment is required to classify individuals accurately. A census of all children meeting the enrollment criteria was included in these analyses.

The CRG health status categories are defined below:

- Healthy includes children who were seen for preventive care and for minor illnesses. This category also includes children who were enrolled but did not use health care services during the classification period.
- Significant Acute Conditions are those acute illnesses that could be precursors to or place the person at risk for developing a chronic disease. Examples in this group are head injury with coma, prematurity, and meningitis.
- Minor Chronic Conditions (both single minor and multiple minor) are those illnesses that can usually be managed effectively throughout an individual's life with typically few complications and limited effect upon the individual's ability, death and future need for medical care. This category includes attention deficit / hyperactive disorders (ADHD), minor eye problems (excluding near-sightedness and other refractory disorders), hearing loss, migraine headache, some dermatological conditions, and depression.
- Moderate Chronic Conditions are those illnesses that are variable in their severity and progression, but can be complicated and require extensive care and sometimes contribute to debility and death. This category includes asthma, epilepsy, and major depressive disorders.
- Dominant Chronic Conditions are those illnesses that are serious, and often result in progressive deterioration, debility, death, and the need for more extensive medical care. Examples in this group include diabetes, sickle cell anemia, chronic obstructive lung disease and schizophrenia.

- Chronic Pairs and Triplets are those individuals who have multiple primary chronic illnesses in two (Pairs), or three or more body systems (Triplets).
- Metastatic Malignancies include acute leukemia under active treatment and other active malignant conditions that affect children.
- Catastrophic Conditions are those illnesses that are severe, often progressive, and are either associated with long term dependence on medical technology, or are life defining conditions that dominate the medical care required. Examples in this group include cystic fibrosis, spina bifida, muscular dystrophy, respirator dependent pulmonary disease and end stage renal disease on dialysis.

For these analyses, the CRG categories were grouped as follows: (1) Healthy, (2) Significant Acute, (3) CSHCN – Minor Conditions (CRG health status categories #3 and #4), (4) CSHCN – Moderate Conditions, (CRG health status category #5), and (5) CSHCN – Major Conditions, (CRG health status categories #6, #7, #8, and #9). These are referred to as the “collapsed” CRG categories.

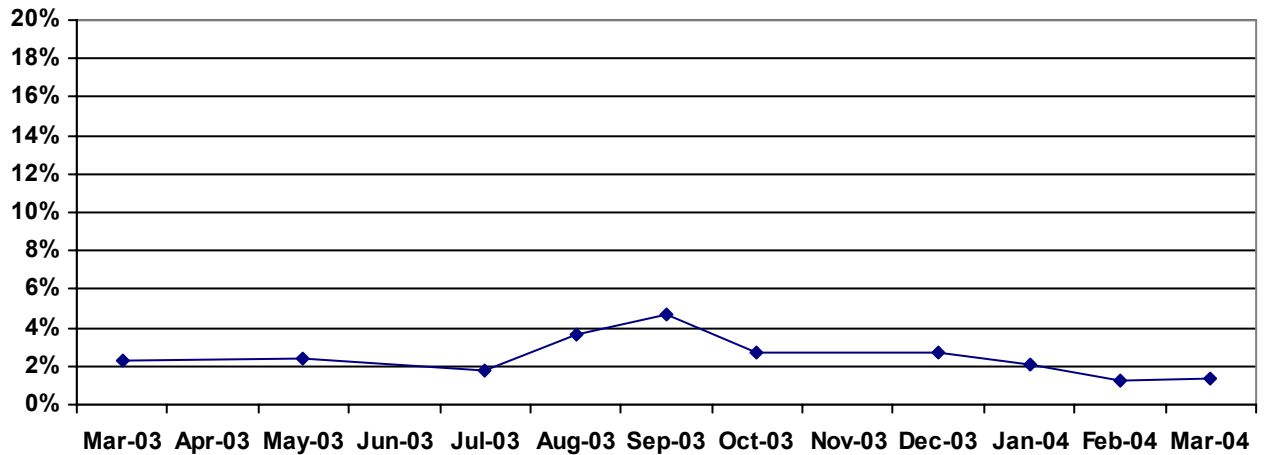
The *Practice Management Information Incorporated (PMIC)* listing of physician fees was linked to the CPT codes. The PMIC contains information from millions of paid claims nationally. The reported paid amount at the 50<sup>th</sup> percentile was used for each CPT code. In addition, a per diem of \$1,500 was assigned to each day of an inpatient stay. A wholesale price index was used to assign charges to the pharmacy data. The MCOs participating in the Healthy Kids Program do not provide their actual paid amounts, therefore it was necessary to use the fee schedule.<sup>6</sup>

## Results

### *Program Changes and Disenrollment From the Program*

Figure 2 illustrates the percentages of disenrollees from the Healthy Kids Program from March 2003 through March 2004. To be included in these analyses, children had to be enrolled for three consecutive months and then disenrolled for two months. The results show that about 2% of the children disenrolled from the program each month. Disenrollment increased after the July 1, 2003 premium change to 3.6% of the children in August 2003 and to 4.7% of the children in September 2003. When the premiums were reduced, a gradual decline in disenrollment was observed decreasing to a low of 1.4% of the children in March 2004.

**Figure 2. Percentages of Disenrollees From the Healthy Kids Program:  
March 2003-March 2004 N=237,178**



A Cox Proportional Hazards Model was calculated to examine the odds of disenrollment during the premium change time. Other factors that might be related to disenrollment were also included in the model such as child age, gender, health status, family income, and place of residence (urban versus rural). The complete results are contained in Appendix A and are summarized below:

- At the time of the highest premium change, children were two times more likely to disenroll from the program compared to the time prior to the premium change. The disenrollment declined when the premium increase was repealed for those with incomes less than 150% FPL but children were still 1.8 times more likely to disenroll when compared to the time period prior to the premium increase. Disenrollment declined further when the final premiums were well-established but still remained at 14% higher than in the pre-premium change period.
- Families with incomes at or below 150% FPL were 36% more likely to disenroll in the post-premium change time period when compared to the pre-premium change time period.
- Families in rural areas were 6% more likely to disenroll post the premium change than families in urban areas, even after considering the children's health status and family income in the models.
- The children's health status continues to be an important factor in the likelihood of disenrollment. Children with significant acute or chronic conditions were 8% to 17% less likely to disenroll compared to healthy children, depending on the health status category. There was no difference in the likelihood of disenrollment between healthy children and children with catastrophic conditions but this is most likely related to transfers to Children's Medical Services (CMS). Finally, children that were newly enrolled in the

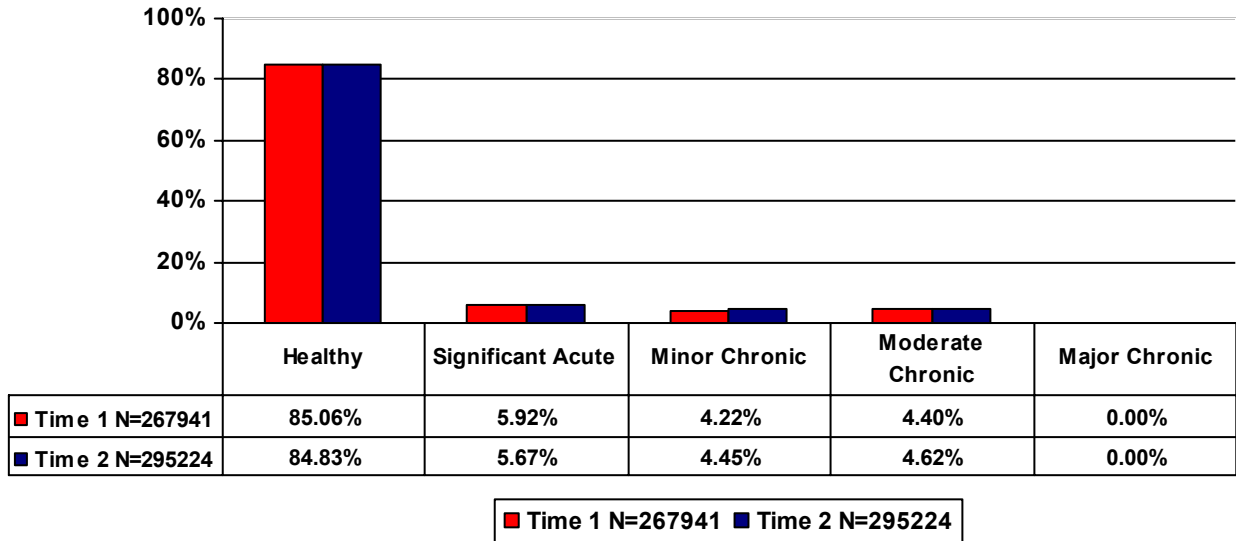
Healthy Kids Program and therefore could not be classified by the CRGs were about 40% less likely to disenroll than healthy children.

### ***Program Changes and Enrollee Case-Mix***

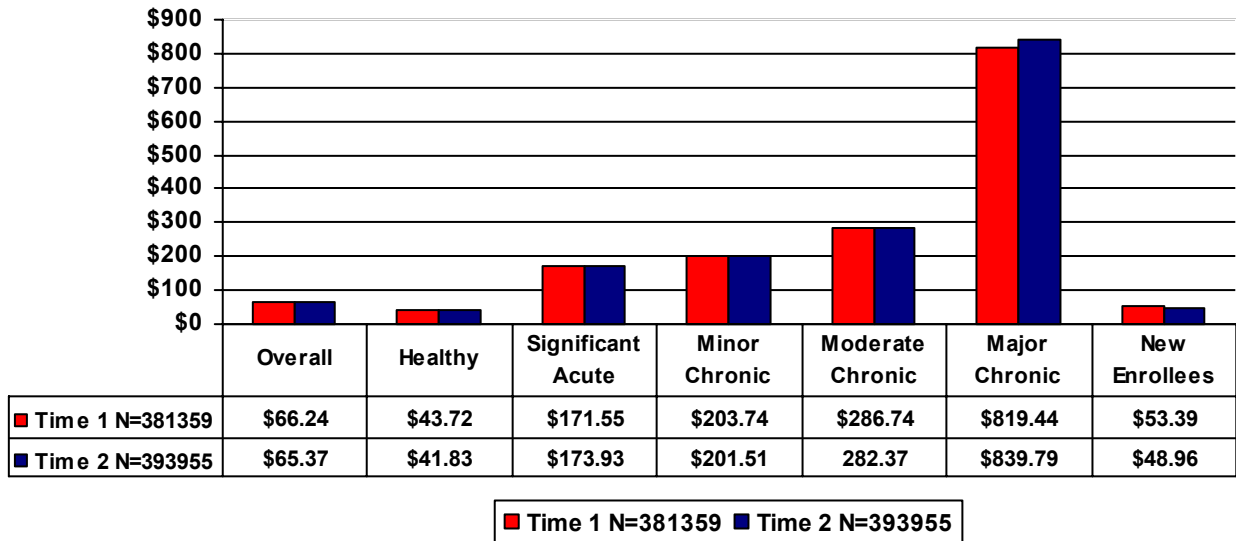
Figures 3 and 4 show the health status and the health care expenditures of the Healthy Kids enrollees pre and post the major program changes that occurred beginning in July, 2003. In both time periods, the majority of children were healthy (about 85%) but 15% of them had significant acute or chronic conditions. The per member per month health care expenditures did not differ significantly during the two time periods either.

Analyses also were conducted to assess whether there were any variations within individual managed care organizations (MCOs). Only those MCOs operational in the two time periods were included in the analyses. Figures 5 and 6 show the enrollees' health status and expenditures in the two time periods for each MCO. While there was significant variation in the percentage of healthy enrollees in each MCO ranging from a high of 88% to a low of 78% of the pool classified as healthy (in Time 2), the differences within MCOs for the two time periods were not significant for 7 of the 8 MCOs. One MCO saw a significant improvement in enrollee health status from Time 1 to Time 2 (83% to 87% healthy in MCO 4). The per member per month average health care expenditures varied by MCO but did not differ significantly within MCOs from Time 1 to Time 2.

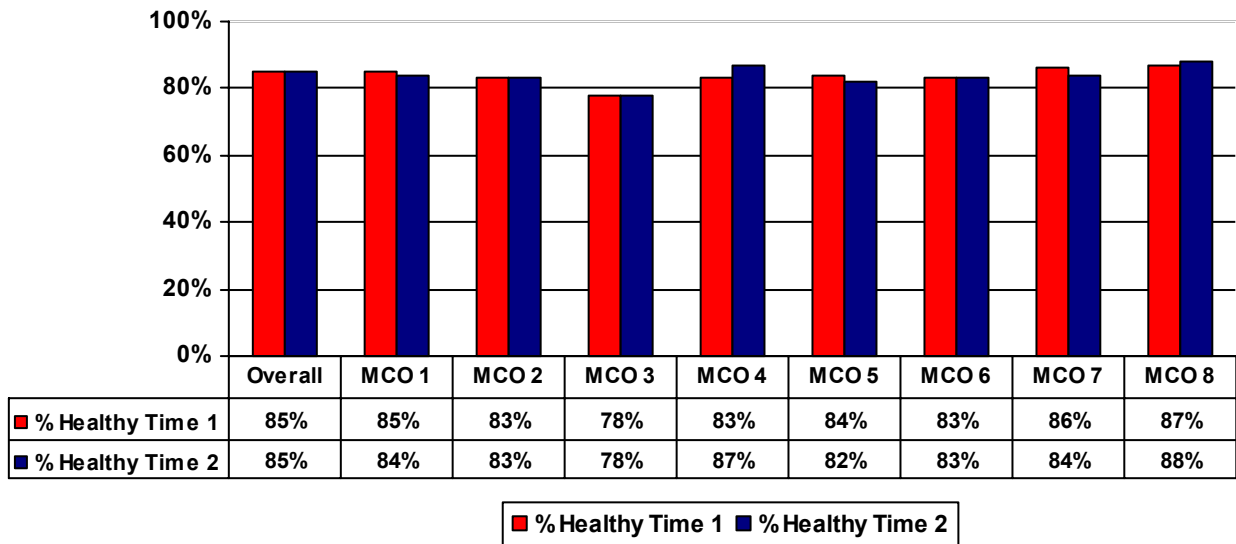
**Figure 3. Enrollee Health Status Classified Time 1 (July 1, 2002-June 30, 2003) and Time 2 (July 1, 2003- June 20, 2004) For Those Meeting Enrollment Criteria for Classification**



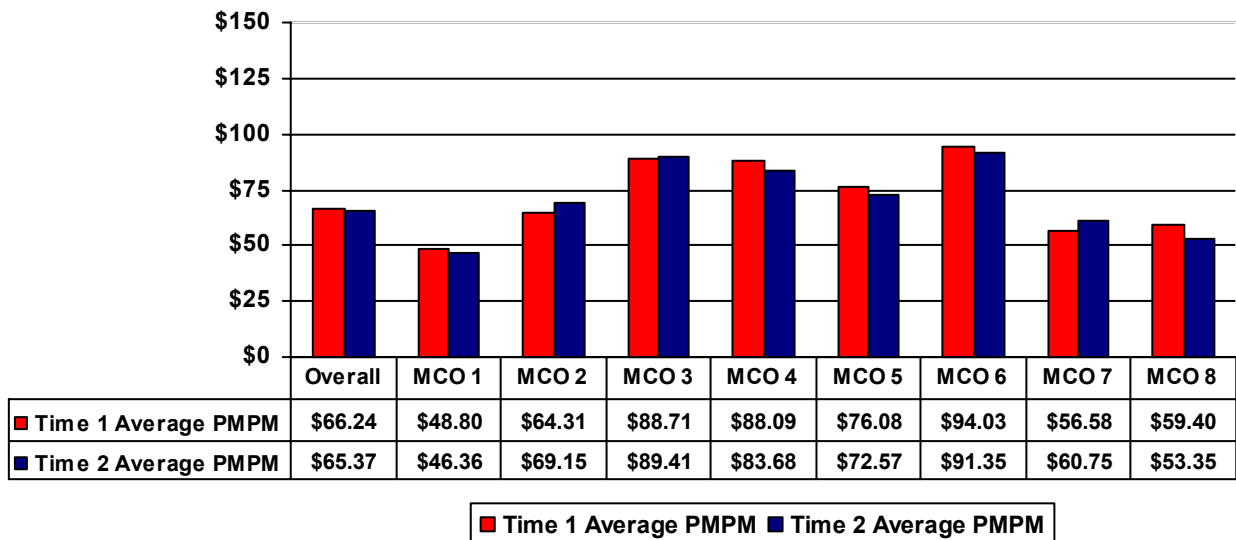
**Figure 4. Enrollee Health Care Expenditures By Health Status for Time 1 (July 1, 2002-June 30, 2003) and Time 2 (July 1, 2003- June 20, 2004)**



**Figure 5. Enrollees' Classified As Healthy By MCO: Time 1 (July 1, 2002-June 30, 2003) and Time 2 (July 1, 2003- June 20, 2004)**



**Figure 6. Enrollee Health Care Expenditures PMPM By MCO for Time 1 (July 1, 2002-June 30, 2003) and Time 2 (July 1, 2003- June 20, 2004)**



## ***Program Changes and the Percentage of Inpatient and Emergency Room Visits for Ambulatory Care Sensitive Conditions***

From July 1, 2002 through June 30, 2003 the percentage of inpatient stays and ER visits that were for ACSCs was 22.35 and 20.28; respectively. From July 1, 2003 through June 30, 2004, the percentages increased somewhat to 24.13% and 21.29% respectively.

### **Discussion**

The most dramatic impact on the program changes that began in July 2003 was the increased disenrollment, which largely abated when the premium was reduced to its original level for families at or below 150% FPL. The increased disenrollment indicates that families are sensitive to what may appear to be modest increases (\$5 per family per month). In fact, preliminary price elasticity calculations suggest that 1% increases in premiums are associated with about a 2% increase in disenrollment. Future premium increases could result in large increases in disenrollment, particularly for the lowest income families in the program. Results from the Florida KidCare evaluation have shown that about two-thirds of disenrollees never obtain any other health care coverage after leaving the program.<sup>7</sup> Thus, premium increases may increase the risk of children becoming uninsured.

The program changes are not associated with any significant changes in health status and health care expenditures at the present time. However, these findings should be viewed with caution for several reasons. First, a full year has not elapsed since all of the changes were implemented. For example, the waiting list was not eliminated until March 2004. Typically, one year needs to elapse before the effects of program changes are observed.

Second, a six month lag for the claims and encounter reporting was not included in these analyses. The ICHP receives claims and encounter data on a quarterly basis. A six month lag allows for claims and encounters to be submitted for previous time periods, which provides a more complete record of the enrollees' health care use and expenditures. For the time period of July 1, 2003 through June 30, 2004, a six month lag would require the availability of data through December 31, 2004. These data will not be available to ICHP until January 2005. Thus it is likely that the calculations for the time period of July 1, 2003 through June 30, 2004 are under-estimates of the children's health status and health care expenditures.

Third, an insufficient amount of time has elapsed to allow for a complete assessment of the impact of set open-enrollment periods on enrollment and disenrollment patterns. Several analyses have demonstrated that the healthiest children in the Healthy Kids Program tend to disenroll and the sicker children tend to remain. Across time, this trend could result in a sicker and more expensive enrollee pool, particularly if the influx of new and potentially healthy enrollees declines. Overall, the percentage of healthy enrollees in the Healthy Kids Program has been fairly constant for several years at about 85% of the children. The impact of the recent program changes coupled with set open-enrollment periods is not known and will require an additional year of follow-up. While the most severely ill children generally transfer to Children's Medical Services, children with significant acute and mild and moderate chronic

conditions remain and if the percentages of them increase, it could have a significant impact on program expenditures.

Finally, there is a small trend toward increasing inpatient and ER visits for ACSCs but it is not statistically significant. Monitoring should continue in this area as one way to assess whether the increased co-payments are associated with decreased outpatient care and an increase in potentially avoidable inpatient stays and ER visits.

## APPENDIX A. Cox Proportional Hazards Model: Disenrollment

Analysis of Maximum Likelihood Estimates						
Variable	DF	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq	Hazard Ratio
post	1	0.12986	0.00959	183.5281	<.0001	1.139
postlow	1	0.43100	0.01486	841.1938	<.0001	1.539
posthigh	1	0.63032	0.01843	1169.1919	<.0001	1.878
unique	1	2.08108	0.00914	51845.0768	<.0001	8.013
age	1	0.05049	0.0008152	3835.1420	<.0001	1.052
female	1	0.01231	0.00607	4.1179	0.0424	1.012
fpl_150	1	0.30698	0.00816	1414.3505	<.0001	1.359
rural	1	0.06084	0.01100	30.5945	<.0001	1.063
sigacute	1	-0.18310	0.03708	24.3847	<.0001	0.833
lesschronic	1	-0.08535	0.02683	10.1213	0.0015	0.918
morechronic	1	-0.14373	0.02633	29.7870	<.0001	0.866
catastrophic	1	0.17551	0.17155	1.0466	0.3063	1.192
nocrg	1	-0.51460	0.01147	2014.1401	<.0001	0.598

### HK

Variable	Coefficient	Elasticity Estimates	HK
post	0.12986	$\epsilon_{\text{post}}$	0.420209
postlow	0.431	$\epsilon_{\text{postlow}}$	2.279329
posthigh	0.63032	$\epsilon_{\text{posthigh}}$	3.450488
Variable	EXP(Coefficient)		
post	1.138669		
postlow	1.538796		
posthigh	1.878212		
Variable	Hazard Ratio		
post	1.138669		
postlow	1.752179		
posthigh	2.138661		

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- <sup>1</sup> Agency for Health Care Administration Fact Sheet.  
<http://www.fdhc.state.fl.us/Medicaid/MediKids/kidcare.shtml> Accessed November 1, 2004.
- <sup>2</sup> Center for Medicare and Medicaid Services. Florida Title XXI Program and Title XXI Amendment Fact Sheet. <http://www.cms.hhs.gov/schip/factsheets/chpfsfl.pdf> Accessed November 1, 2004.
- <sup>3</sup> Smith, V.K. Rosseau, D.M. & O'Malley, M. July 2004. *SCHIP Program Enrollment: December 2003 Update*, The Kaiser Commission on Medicaid and the Uninsured.
- <sup>4</sup>Shenkman, E., Vogel, B., Boyett, J., Naff, R. 2002. Enrollment and Disenrollment in a Title XXI Program. *Health Care Financing Review*. 23(3):47-63.
- <sup>5</sup> Neff JM, Sharp V, Muldoon J, Graham J, Popalisky J, Gay, J. Identifying and Classifying Children with Chronic Conditions Using Administrative Data with the Clinical Risk Group Classification System. *Journal of Ambulatory Pediatrics*, 2001; 2(1): 72-29.
- <sup>6</sup> Practice Management Information Incorporated. 2000. *Physician Fees*. Los Angeles, California: James B. Davis, Publisher.
- <sup>7</sup> Nogle, J. and Shenkman, E. 2003. *The Florida KidCare Evaluation*. Gainesville, Florida: The Institute for Child Health Policy, University of Florida.