The Impact of Cost Sharing Changes in the Florida Healthy Kids Program

A Report Prepared for the Florida Healthy Kids Corporation

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I. INTRODUCTION

Effective July 1, 2003 the per family per month (PFPM) premium for families with household income between 101 percent and 200 percent of the federal poverty level (FPL) increased from $15 to $20. The Center for Medicare and Medicaid Services (CMS) determined that the $20 PFPM exceeded federal cost sharing limits for families whose income was at or below 150 percent of the FPL. Consequently, premiums were reduced back to $15 PFPM for those at or below 150 percent of the FPL as of October 1, 2003 and remained at $20 PFPM for families whose income was 151 percent to 200 percent of the FPL.

As part of its 2003-2004 evaluation, the Institute for Child Health Policy evaluated the impact of these premium changes on enrollment in the Florida Healthy Kids Program. During the same period, copayments were increased from $3 to $5 for acute care visits. Because increased co-payments could cause families to delay seeking care for their children, the Institute also examined whether there were changes in children's use of inpatient and emergency room (ER) visits for ambulatory care sensitive conditions (ACSCs). ACSCs are those conditions that are not expected to result in inpatient or ER use if there is good access to care in the outpatient setting. Analyses conducted for the 2003-2004 evaluation did not reveal significant changes in the enrollee case-mix within the Florida Healthy Kids Program or in potentially avoidable inpatient and ER use. However, a full twelve months of health care claims and encounter data, allowing for a six month lag to ensure a more complete claims history, were not available for the analyses. Consequently, the Healthy Kids Board of Directors recommended repeating the analyses using a full year of claims and encounter data post the July 1, 2004 program changes. This report provides an updated analysis of: (1) the impact of premium changes on enrollment patterns in the Florida Healthy Kids Program, controlling for the children's health and

sociodemographic characteristics and (2) changes in the percentage of enrollees with inpatient stays and ER visits for ACSCs before and after the changes in cost sharing.

II. Data Sources and Measures

A. Sample Selection

All children enrolled in the Florida Healthy Kids Program for at least two months during the period January 2003 through June 2003 were included. Children age 17 and older were excluded so that those who were aging out of the program would not be included in the analyses. This sample selection targets children enrolled in the program during the period immediately preceding the July 2003 premium change. In order to capture sufficient enrollment behavior both before and after the premium change, the observation window for these children extends from July 1, 2002 to June 30, 2004. Thus, one full year of coverage information before and after the July 1, 2003 premium change is captured. A total of 704,694 enrollment spells (i.e., observations), representing 153,714 children were included in the analyses.

B. Data Sources

The following data sources were used:

1. Enrollment files provided by the Florida Healthy Kids Corporation. The enrollment files contain information about the child's age, gender, family income, and enrollment status. These files were used to (1) identify children in households with income between 101 percent and 200 percent of the federal poverty level (FPL) enrolled during January 2003 – June 2003, (2) determine the children's enrollment patterns from July 2002 through June 2004, and (3) obtain information about the children's sociodemographic characteristics. The Healthy Kids enrollment files were linked to

the Medicaid enrollment files in order to take into account program transition. Children were not considered to be "disenrolled" until they exited from public health insurance entirely.

2. The enrollment files were also matched to health care claims and encounter data submitted by all of the health plans participating in the Florida Healthy Kids Program. The person-level claims and encounter data contain Physician's Current Procedural Terminology (CPT) codes and International Classification of Diseases, 9th Revision (ICD 9-CM) codes. Claims and encounter data were used to (1) classify the children's health status during their enrollment spells and (2) determine the children's inpatient and ER use before and after the program changes took effect.

C. Measures

1. Children's Health Status

The claims and encounter data were used to characterize the children's health status using the Clinical Risk Groups (CRGs). The CRGs 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).[1] 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.

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[1] Neff, J.M., Sharp, V., Muldoon, J., Graham, J. Popalisky, J., Gay, J. 2001. "Identifying and Classifying Children with Chronic Conditions Using Administrative Data with the Clinical Risk Group Classification System." *Journal of Ambulatory Pediatrics*. 2(1): 72-29.

Enrollees in the program for six months or longer are included in the analyses. Some continuity of enrollment is required to classify individuals accurately. The health status classifications of children meeting the enrollment criteria are reported in these analyses. The following health status categories were used in this report: (1) Healthy, (2) Significant Acute, (3) CSHCN – Minor Conditions (single minor conditions and multiple minor conditions), (4) CSHCN – Moderate Conditions (moderate chronic conditions), and (5) CSHCN – Major Conditions (dominant chronic, chronic pairs and triplets, metastatic malignancies, and catastrophic conditions). The CRG categories were collapsed into the preceding categories by following instructions from the developers.[2] The health status of children not meeting the minimum enrollment criteria for classification is reported as "new enrollees."

Four different time frames for the claims and encounter data were used to initially classify the children's health status and to update their health status over time. Claims and encounter data from January 2002 through December 2002 were used to classify the health status of spells that were left truncated at July 2002 and to new enrollment spells originating from July 2002 through December 2002. The children's CRG classification was updated every six months (at January 2003, July 2003, and June 2004) by advancing the claims and encounter data time intervals by six months for each new classification.

2. Demographic Variables

The families' income expressed as a percent of the FPL was calculated from the enrollment files. The children's gender and place of residence (rural versus urban) were also included. The child's age as of January 2002 was included and updated annually.

[2] A more complete description of the CRG health status categories can be found in Appendix A.

3. Premium Change Variables

A time-varying covariate named "premium" was constructed to capture the premium in dollars that each family paid both before and after the July 2003 and October 2003 policy changes. Before July 2003, all families whose income was 101 percent – 200 percent of the FPL paid $15. From July 2003 forward, families with income of 151 percent – 200 percent of the FPL paid $20. From July 2003 until October 2003, families with income of 101 percent to 150 percent of the FPL paid $20 and then paid $15 from October 2003 forward.

A time-varying dummy covariate named "late" that is equal to 1 if October 2003 or later and 0 if earlier than October 2003 was constructed. This variable captures both the return to $15 premium for families with income of 101 percent to 150 percent of the FPL and the longer term effect of the $20 premium for families with income of 151 percent to 200 percent of the FPL.

4. Enrollment and Disenrollment

All children enrolled in the Florida Healthy Kids Program for at least two months during the period January 2003 through June 2003 were included in the analyses. Because a child could leave the Florida Healthy Kids Program for another public program – Children's Medical Services or Medicaid – due to changes in eligibility status, a child was considered disenrolled only if he or she was not enrolled in any public program for at least two consecutive months. Two consecutive months was selected to ensure that the child was truly disenrolled from the program. Children begin a new enrollment spell if they are subsequently enrolled again for at least two months. Thus, a child could have more than one enrollment spell.

III. RESULTS

A. Impact of Premium Changes on Enrollment

1. Sample Description. Children who were enrolled in the Florida Healthy Kids Program for at least two months from January 2003 through June 2003 were included in the analyses. Children age 17 and older were excluded so that those who were aging out of the program would not be included in the analyses. The observation window extended from July 2002 through June 2004.

2. Analytic Approach. Survival analysis modeling approaches were used to analyze the impact of premium changes on children's odds of disenrolling over time, controlling for the children's health status and sociodemographic characteristics. The results of a Cox Proportional Hazards Model are reported here. These results are robust across varying assumed distributions (exponential, Weibull, lognormal, etc.).

3. Results. An increase in the premium amount from $15 per month $20 per month was associated with an increase in disenrollment from the Florida Healthy Kids Program. This is reflected in the lower survival time (i.e., decreased enrollment length) shown in Figure 1 when the premium is $20 per month compared to $15 per month.

Figure 2 shows the effect of the premium changes by family income as a percent of FPL on the children's hazard ratio (HR) for disenrolling:

- When the premium increased to $20 per month in July 2003, the HR increased for children in both income categories. However, the HR increased by a greater amount for children between 101 percent and 150 percent of the FPL (HR=1 to HR=2.69) compared to those between 151 percent and 200 percent of the FPL (HR=0.81 to HR=1.97).
- When the premium returned to $15 per month in October 2003 for children in families between 101 percent and 150 percent of the FPL, their HR for disenrolling decreased from 2.69 to 2.20, but it was still well above the HR of 1.00 prior to the premium increase.

- Children in families between 151 percent and 200 percent of the FPL who experienced a permanent increase in the premium to $20 per month show a somewhat higher short-run HR of 1.97 from July 2003 – October 2003 compared to the long-run HR of 1.74 after October 2003. But the long-run HR of 1.74 associated with a monthly premium is $20 is significantly greater than the HR of 0.81 associated with the $15 monthly premium.

Other findings include: (1) children with acute significant or chronic health conditions were less likely to disenroll compared to children classified as healthy; (2) older children were more likely to disenroll than younger children; and (3) children from rural areas were more likely to disenroll than those from urban areas.

B. Program Changes, Enrollee Case Mix, and Access to Care

1. Program Changes and Enrollee Case Mix

The children's health status prior to the July 1, 2003 changes was classified using claims and encounter data for enrollees statewide during the preceding twelve months (July 1, 2002 through June 30, 2003). The children's health status after the program changes was classified using claims and encounter data for the period July 1, 2003 through June 30, 2004. Figure 3 shows the enrollees' health status pre and post the program changes. In both periods, the majority of the children were healthy (about 83 percent to 84 percent), but about 16 percent to 17 percent had significant acute or chronic conditions.

Figure 3: Enrollee Health Status Classified Before (July 1, 2002 - June 30, 2003) and After (July 1, 2003 - June 30, 2004) the Program Changes for Children Meeting the Enrollment Criterion for Classification

	Healthy	Significant Acute	Minor Chronic	Moderate Chronic	Major Chronic
Before N=224,885	83.77%	6.54%	4.54%	4.64%	0.50%
After N=244,869	82.76%	6.73%	4.98%	4.98%	0.55%

2. Program Changes and Access to Care

Increased cost sharing can be a barrier to access to care by deterring families from seeking prompt care for their children. One measure of barriers to access to care is the percentage of children who use inpatient and emergency room (ER) services for ambulatory care sensitive conditions (ACSCs).

ACSCs refer to those conditions that are not expected to result in inpatient or emergency room (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, and ruptured appendix.

The percentage of emergency room visits that are attributable to ACSCs was calculated both for the 12-month period prior to the program changes (July 1, 2002 – June 30, 2003) and for the 12-month period after the program changes (July 1, 2003 – June 30, 2004). From July 1, 2002 through June 30, 2003, the percentages of inpatient stays and ER visits attributable to ACSCs were 21.95 percent and 22.34 percent respectively. From July 1, 2003 through June 30, 2004, the percentages decreased slightly to 20.72 percent and 21.23 percent respectively.

IV. CONCLUSIONS

The July 2003 premium increase significantly increased the HR for disenrollment from the Florida Healthy Kids Program. Children in families with 101 percent to 150 percent of the FPL experienced a greater increase in the HR than those in families with 151 percent to 200 percent of the FPL. Notably, the HR for children between 101 percent and 150 percent of the FPL did not return to its prior level when the premium returned to $15 per month. Therefore, it does not appear that "undoing" the premium increase results in a return to prior disenrollment rates. For children between 151 percent and 200 percent of the FPL who experienced a permanent premium increase, the HR was lower in the long run (after October 2003) but still well above the HR prior to the increase.

This increased disenrollment indicates that families are sensitive to what may appear to be a modest increase in the premium amount ($5 per family per month). Future premium increases could result in large increases in disenrollment rates, particularly for the lowest income families in the program, thereby increasing the risk of children becoming uninsured.