
Managing Access: Extending Medicaid to Children Through School-Based HMO Coverage

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This study explores how a health maintenance organization's (HMO) capacity and incentives to manage care might be used to improve access. In the early 1990s, the Florida Healthy Kids (FHK) demonstration extended Medicaid-like HMO coverage to indigent children in the public schools of Volusia County, Florida. The study finds that uninsured student months in area public schools were likely reduced by one-half. Utilization and cost levels for these indigent enrollees proved to be indistinguishable from commercial clients; and measures of access, utilization, and satisfaction for enrollees were in line with (and in some cases, superior to) non-enrollees with private insurance. Overall, these results suggest the value of using schools as a medium for providing coverage, and the importance of taking deliberate steps to manage access to reduce non-financial barriers to care.

INTRODUCTION

One concern about capitated managed care is that providers will act on narrow financial incentives and use their control over beneficiaries to limit access to costly care, such as specialty and inpatient care (Cartland and Yudkowsky, 1992). This concern becomes more important as Medicaid and other public programs

expand the role of managed care in serving indigent beneficiaries (Iglehart, 1995). The purpose of this article is to explore a contrasting possibility: that an HMO's capacity and incentives to manage care might be exploited to improve access.

We examined that possibility in a study of the Medicaid Extension Demonstrations that began in the early 1990s. Section 6407 of the Omnibus Budget Reconciliation Act (OBRA) of 1989 (Public Law No. 101-239 § 6407, 103 Stat. 2266) required HCFA to establish several Medicaid demonstration projects. The purpose of these projects was to enable States "to develop and carry out innovative programs to extend health insurance coverage to pregnant women and children under age 20 who lack insurance and to encourage workers to obtain health insurance for themselves and their children." HCFA entered agreements with three States—Florida, Maine, and Michigan—to implement three very different approaches for extending Medicaid coverage to uninsured children. The Florida FHK demonstration is our concern in this article. (For a description of all three demonstrations, see Abt Associates Inc./Health Economics Research [1995].)

The FHK demonstration was indeed innovative. It used a mixed public-private arrangement to offer Medicaid-like coverage to children up to 185 percent of the Federal poverty level (FPL) through the schools of Volusia County, Florida. A staff-model HMO in the county underwrote and managed the care for students. The purpose of our study was to evaluate the

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effectiveness of the school-based setting for marketing the coverage and to analyze the effects of the managed care provider on the health behaviors of the enrollees.

This article is divided into five sections. The first section provides an overview of the demonstration itself. The second section discusses enrollment in and disenrollment from the demonstration. The third section then examines utilization during the demonstration, using administrative data to explore a series of questions on overall levels of utilization and on the effectiveness of the demonstration in enhancing access and curbing costly utilization habits (such as high levels of emergency room [ER] use). The fourth section provides a brief summary of multivariate results on access, utilization, and satisfaction, based on a survey of families in demonstration and comparison areas. The final section draws these different strands of analysis together to explore the significance of the Florida demonstration.

OVERVIEW OF THE DEMONSTRATION

The motivation for the Medicaid Extension Demonstrations was clear. A growing proportion of the low-income population was uninsured in the 1980s. Congress responded by authorizing or mandating expansions of Medicaid eligibility for two particular groups: pregnant women and children. In the Extension Demonstrations that are our concern in this article, States were encouraged to innovate, to experiment with alternatives to the standard Medicaid program that might better fit the problems and circumstances of uninsured populations. Indeed, as noted in the solicitation for the demonstration, HCFA was committed to give highest priority to State applications that, among other

things, “emphasize alternative methods of providing assistance over simple expansion of eligibility criteria.”

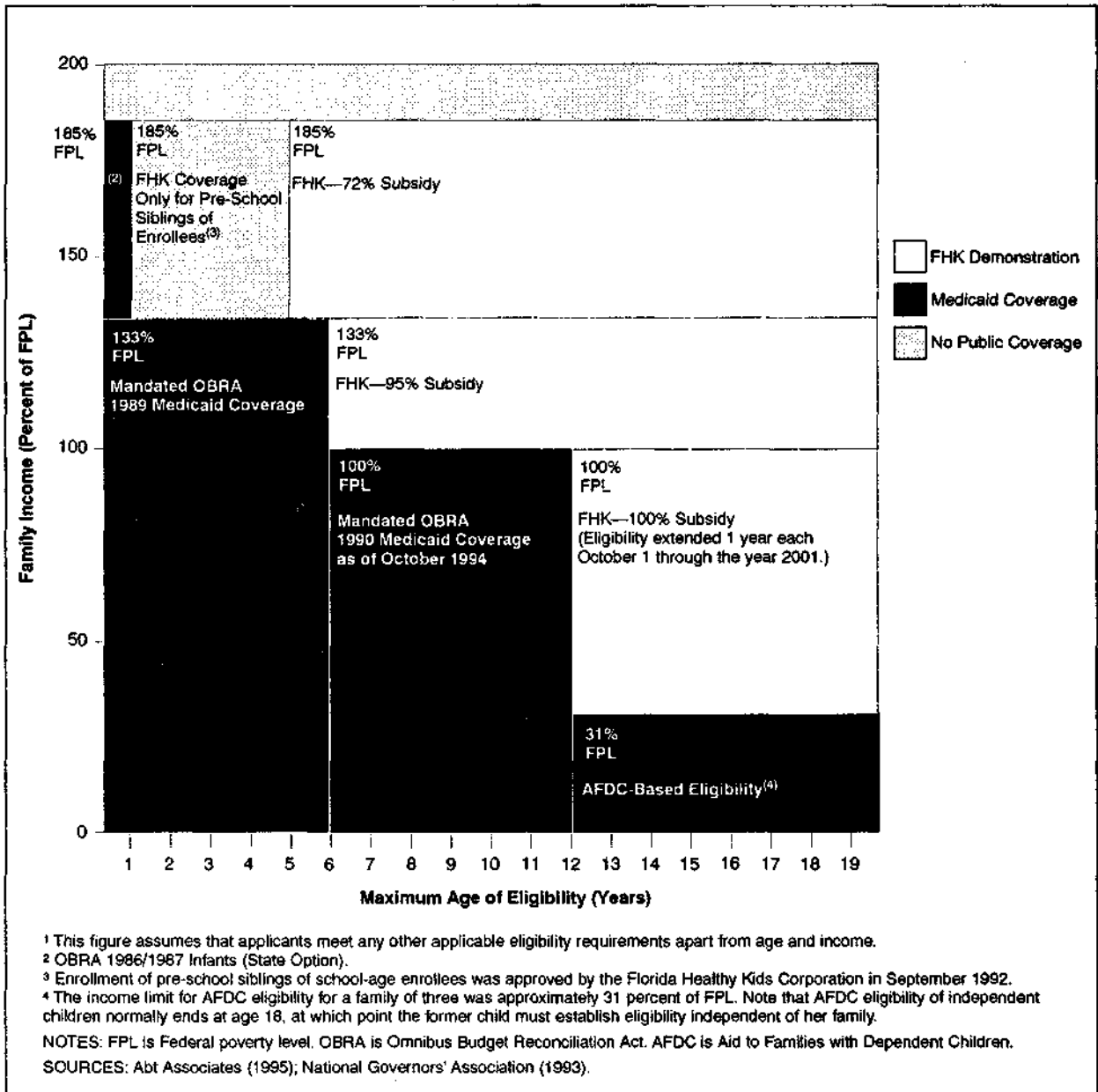
Eligibility

Eligibility for the Florida demonstration was restricted to children who met four basic conditions:

- Family Income Under 185 Percent of FPL—OBRA 1989 (Section 6407(b)(1)) authorized expansions in eligibility for children up to 185 percent of FPL. As shown in Figure 1, this expansion represented a substantial increase in coverage, as the effective pre-demonstration income limit for most school-level age groups was only 31 percent of FPL, the approximate income cutoff for Aid for Families with Dependent Children (AFDC) in Florida.¹ Under the particular design Florida adopted, income eligibility was established using data from the Free and Reduced Price School Lunch Program. As a result, otherwise eligible students had to apply to the school lunch program to be eligible for subsidized coverage under the FHK demonstration (students who did not apply to the school lunch program could obtain unsubsidized coverage by paying the full premium). By linking the eligibility process to an existing program for low-income families, FHK was able to capture a large proportion of the target population with a

¹ Note that, as the demonstration was being implemented in the 1990-92 period, new Federal mandates reduced the independent impact of the demonstration. Most important, as shown in Figure 1, the OBRA 1990 (Public Law 101-508 § 4601, 104 Stat. 1388-166-1388-167) mandated coverage for 6-year-old children, up to 100 percent of FPL, with the age limit increasing by 1 year each year, until the year 2001, when children up through 18 years of age and 100 percent of FPL would be covered. In that sense, OBRA 1990 was structured progressively to supersede demonstration coverage in Volusia County for children up to 100 percent of FPL; and Healthy Kids coverage was in due course to be concentrated among children in higher income groups—i.e., between 100-185 percent of FPL.

Figure 1
Florida Healthy Kids (FHK) Demonstration Eligibility
Compared With Medicaid Eligibility and No Public Coverage¹: October 1994



minimum of administrative complexity in the school setting, since an income verification process was already in place.

- **Without Comparable Health Insurance—** OBRA 1989 limited coverage to otherwise eligible children who lacked insurance and were not eligible for Medicaid. As we discuss later in greater detail, one-fourth to one-third of all students were without insurance cover-

age at any point in time, and the demonstration was designed to focus on those students. One effect of this limitation was that girls who became pregnant while enrolled in FHK were technically required to shift to Medicaid coverage; their pregnancies made them immediately eligible for Medicaid under Medicaid eligibility expansions for pregnant women that were being implemented at

this time. As a result, other than incidentally, the FHK program did not itself provide prenatal or other care to girls who became pregnant.

- Enrolled in the Public Schools of the Demonstration County (Volusia)—This condition was the result of the particular school-based demonstration design Florida developed. It had the effect of excluding Volusia County children who were not of school age or otherwise were not enrolled in the public schools (grades K-12)—e.g., because they had dropped out of school or were in private schools, home schools, or public colleges.² As shown in Table 1, when the demonstration was being planned in 1990, 25 percent of all children in Volusia County were pre-school aged (defined here as children 4 years of age or under) and an additional 22 percent were not enrolled in the public schools. In the absence of other data, we assume that similar proportions of uninsured children were excluded from the program. Accordingly, by being based in the public schools, the demonstration appears to have excluded approximately 47 percent of all uninsured children in the county. By a similar logic, the demonstration excluded approximately 29 percent of all uninsured school-aged children in the county (Table 1). A key

question for the demonstration was whether basing the demonstration in the public schools provided advantages that offset the costs of excluding all of these children outside the public schools.

- Under 20 Years of Age—This restriction was imposed by OBRA 1989 (Section 6407(b)(1)). It had the effect of excluding most adults. However, because of Florida's school-based design, the restriction was not very limiting: The inclusion of 19-year-old students permitted FHK to cover virtually all older students.

Obviously, the FHK demonstration in Volusia County did not address the problem of all uninsured children in the county. It targeted only the uninsured children in the public schools, who met the income requirements of the program. While this focus excluded many children (specifically, the almost one-half of all children who were below school age or otherwise not enrolled in the public schools), it proved to be an efficient targeting mechanism for the program, as we discuss.

² Note that these requirements were later eased somewhat. In September 1992, 6 months after enrollment began, FHKC approved enrollment of pre-school siblings of enrolled students. With that change in the rules, families with at least one child in the public schools could obtain coverage for all of their children from FHK. This change was a convenience to families, but it also made sense from FHKC's point of view, because family incomes for these pre-school children were verified by the school-lunch data available for their enrolled, school-age siblings.

Table 1
Public School Enrollment in Volusia County
As a Percentage of All Children and All School-Aged Children

| Age Group | Number | Percent of | |
|--|--------|--------------|--------------------------|
| | | All Children | All School-Aged Children |
| All Children (0-19 Years) | 81,061 | 100.0 | N/A |
| Pre-School Children (0-4 Years) | 20,554 | 25.4 | N/A |
| School-Aged Children (5-19 Years) | 60,507 | 74.6 | 100.0 |
| Children Enrolled in Public Schools (K-12) | 42,738 | 52.7 | 70.6 |
| Children Not Enrolled in Public Schools | 17,769 | 21.9 | 29.4 |

NOTES: N/A is not applicable. Table assumes that children in kindergarten and later grades are at least 5 years old.

SOURCE: (U.S. Department of Commerce, 1993).

Demonstration Design

The FHK demonstration incorporated six other notable design features:

- **Biannual Open Enrollments**—Open enrollments were held twice each year on average, once in the spring and once in the fall.
- **Mixed Public-Private Administration**—The Florida Medicaid program was the direct Federal grantee for the demonstration. However, most of the State-level administration of the program was in fact privatized. Specifically, Florida set up a private, not-for-profit organization—the Florida Healthy Kids Corporation (FHKC)—to orchestrate and administer agreements with private contractors, local school districts, and State agencies into a coordinated project. With FHKC as a program developer and private intermediary, the program was expected to be more flexible and efficient than a project run by a State agency working directly with local school districts and health care providers.
- **Capitated Payments and Private Risk Bearing**—A private contractor was to bear the risks of the costs of care. Medical coverage was to be provided at a fixed price per enrollee, subject to minimum coverage and access requirements.
- **HMO Provider**—The provider for the demonstration was the Florida Health Care Plan (FHCP), one of the few HMOs in a county with only a modest managed care presence at the time the demonstration was planned. Enrollees did not have freedom to choose providers. The utilization risk in the short-run was assumed by the HMO under a contract that established a fixed-price payment per enrollee per month and set access requirements that the FHCP network had to satisfy.
- **Medicaid Kept in the Background**—The Florida demonstration was kept at some organizational distance from the Medicaid program. According to demonstration officials, Medicaid's role was reduced for two reasons: to avoid the welfare stigma thought to be associated with the Medicaid program, a stigma that was expected to make it harder to market coverage to children and their families; and to make the program more attractive to potential providers and others who had had frustrations in dealing with the red tape of the Medicaid program. (Note, for example, that FHCP claimed that it would not even have submitted a bid if the program had been run directly by the State Medicaid office.)
- **Cost-Sharing Provisions**—The full cost of the premium charged by FHCP for each FHK enrollee was \$58.98 per month at the outset of the program, and copayments were required for some services. Each of these areas deserves comment:
 - **Premiums**—Few enrollees paid the full premium, as most enrollees received premium subsidies. There were three subsidy categories. First, for children in families at or below 100 percent of FPL, the subsidy rate was 100 percent (as required by Section 6407(c) of OBRA 1989). Second, at higher incomes, there was a sliding scale for subsidies, as required by OBRA 1989: 95 percent (for children in families between 101-133 percent of FPL), and 72 percent (for children in families between 134-185 percent of FPL). Third, there was a full-pay category for children in families whose income was above 185 percent of FPL and for children in families with incomes perhaps below that level whose incomes could not be verified because their children were not enrolled in the school lunch program. The premiums

(along with the copayments noted later) were not a significant source of income for budgetary purposes—they totaled roughly 10 percent of all revenues in the demonstration. Instead, these premiums were seen by program planners as a way to prevent any stigma that might accompany complete subsidies (at least, for enrollees who could be charged premiums under OBRA 1989), and to elicit shared responsibility between parents and the demonstration for funding. FHKC established a “rescue fund” for families on less than full subsidy who missed a payment.

Copayments—Enrollees in the FHK demonstration were required to contribute copayments for certain medical services (the highest copayment—\$25—was for ER visits). However, over time, copayments were reduced in two senses. First, by 1995, the number of services requiring copayments had been reduced. Second, for services (including ER visits) that still required copayments, copayments were reduced in amount.

The FHK demonstration thus represented a mixed public-private model for working within a wholly public setting—the schools—to market subsidized health coverage to uninsured children. The demonstration explored the viability of using the public schools as a nexus for marketing this special coverage, as well as the administrative feasibility and other effects of using the school-lunch program for this ancillary purpose.

Demonstration Site: Volusia County

Volusia County was selected as the demonstration site. Volusia was selected because it had a sufficiently serious problem of uninsured children to warrant

an effort like the demonstration (estimates are given in the Enrollment and Disenrollment section later), and meanwhile had a school administration and other organizations willing to make major commitments of time and other resources to the demonstration. A successful demonstration would require considerable administrative efforts from the school district and area organizations—e.g., to market the coverage, to educate enrollees about the coverage, to help arrange linkages between the demonstration and key administrative systems (e.g., the school-lunch program), and other efforts. The selection of Volusia County reflected one of the key premises of the demonstration: that local districts had to be committed to this program, so that they would work hard to make it succeed.

Volusia County is a largely urban county located on Florida’s east coast. Its major urban center is Daytona Beach. As suggested by 1990 census data (Table 2), Volusia County was not very different from the Florida average on many key social and economic indicators. Compared with State averages, Volusia County had similar income and education levels. While median family income was lower in Volusia than statewide, the proportion of persons below FPL (and below 125 percent and 200 percent of FPL) was similar in the county and the State. Meanwhile, education attainments and school drop-out levels were similar in the county and State through high school, although the State had a higher proportion of people who had completed bachelor’s degrees. Finally, the proportion of children under 18 years of age who lived with two parents was almost identical in Volusia County and statewide.

There were important differences between Volusia County and the rest of the State, however:

- Volusia had a higher proportion of white persons and a lower proportion of both black persons and Hispanics than did the State as a whole.
- Volusia had a much lower proportion of homes in which a language other than English was spoken and a lower proportion of homes in which "English was not spoken 'very well.'"

Thus, while Volusia was not very different from the rest of the State economically, it was very different in terms of race, ethnicity, and language. The FHK model thus incubated in a less intensely multilingual environment, with a smaller ethnic and minority population, than the rest of the State presented. It is worth noting, however, that FHK later expanded into the largest urban counties of the State, so this difference was temporary.

Benefits

The scope of benefits provided by the Healthy Kids Program was unchanged

throughout the demonstration. Enrollees were required to select a primary care physician from among the FHCP physicians, and all non-emergency services had to be provided or authorized by FHCP. Major benefits covered by FHK included inpatient hospital care, preventive care, mental health services, outpatient rehabilitation, home health services, eyeglasses, prosthetic devices, skilled nursing facility care, emergency care (including ambulance services), prescription medicines, refractions, newborn care, and transplants. Benefit limitations in the Healthy Kids Program were selective, largely concerned with areas where discretionary utilization was a particular concern, such as mental health, dental care, and eyeglasses.

This scope of services was comprehensive, comparable in scope to ordinary Medicaid coverage. The omission most frequently noted by enrollees' parents was dental care, according to FHKC staff. The plan covered dental services only when provided by an oral surgeon for medically necessary reconstructive surgery.

Table 2
Comparison of Volusia County to Florida Averages

| Measure | Volusia County | Florida (Statewide) |
|--|----------------|---------------------|
| Median Family Income | \$29,563 | \$32,212 |
| Persons Below Poverty Level | | Percent |
| All Persons and Ages | 12 | 13 |
| Related Children Under 18 Years of Age | 16 | 18 |
| Families Below Poverty Level | 8 | 9 |
| Persons Below 125 Percent of FPL | 117 | 117 |
| Persons Below 200 Percent of FPL | 133 | 132 |
| Percent of Civilian Labor Force Unemployed | 6.0 | 5.8 |
| Children Under 18 Years of Age Living With Two Parents | 69 | 67 |
| Educational Attainment (Persons 25 Years of Age or Over) | | |
| High School Graduate or Higher | 75 | 74 |
| Bachelor's Degree or Higher | 15 | 18 |
| Persons 16-19 Years of Age Not In/Graduated From High School | 14 | 14 |
| Race | | |
| Hispanic Origin (Any Race) | 4 | 12 |
| Black | 9 | 14 |
| White | 89 | 83 |
| Speak Language Other Than English at Home | 9 | 17 |
| And Do Not Speak English "Very Well" | 3 | 8 |

¹ Calculated from census data.

SOURCE: (U.S. Department of Commerce, 1993).

Provider Network

All medical services were provided to FHK enrollees through FHCP. FHCP contractually agreed to perform all provider recruitment and network maintenance necessary to ensure adequate access and service provision. Prior to the demonstration, primary care physicians at FHCP were almost exclusively on staff. The demonstration changed that. The demonstration required that every enrollee should have access to a primary physician within a 20-minute driving distance. To meet this demonstration requirement, FHCP expanded its use of capitation contracts with independent physicians to provide primary care. Over one-half of the physicians treating FHK patients were outside providers; roughly one-half of the enrollees were assigned to primary care physicians outside FHCP's staff. However, even enrollees whose primary care physician was not a member of the FHCP staff had access to an FHCP physician 24 hours a day.

ENROLLMENT AND DISENROLLMENT

Enrollment

FHK began providing demonstration coverage in March 1992 and did so for 36 months through February 1995. During that time, FHK provided over 197,000 enrollee months of coverage to children in Volusia County. There were more than 5,600 enrollees per month, on average, from the start to the end of the demonstration. In March 1995, as the demonstration ended, almost all of the FHK enrollees were transitioned to a

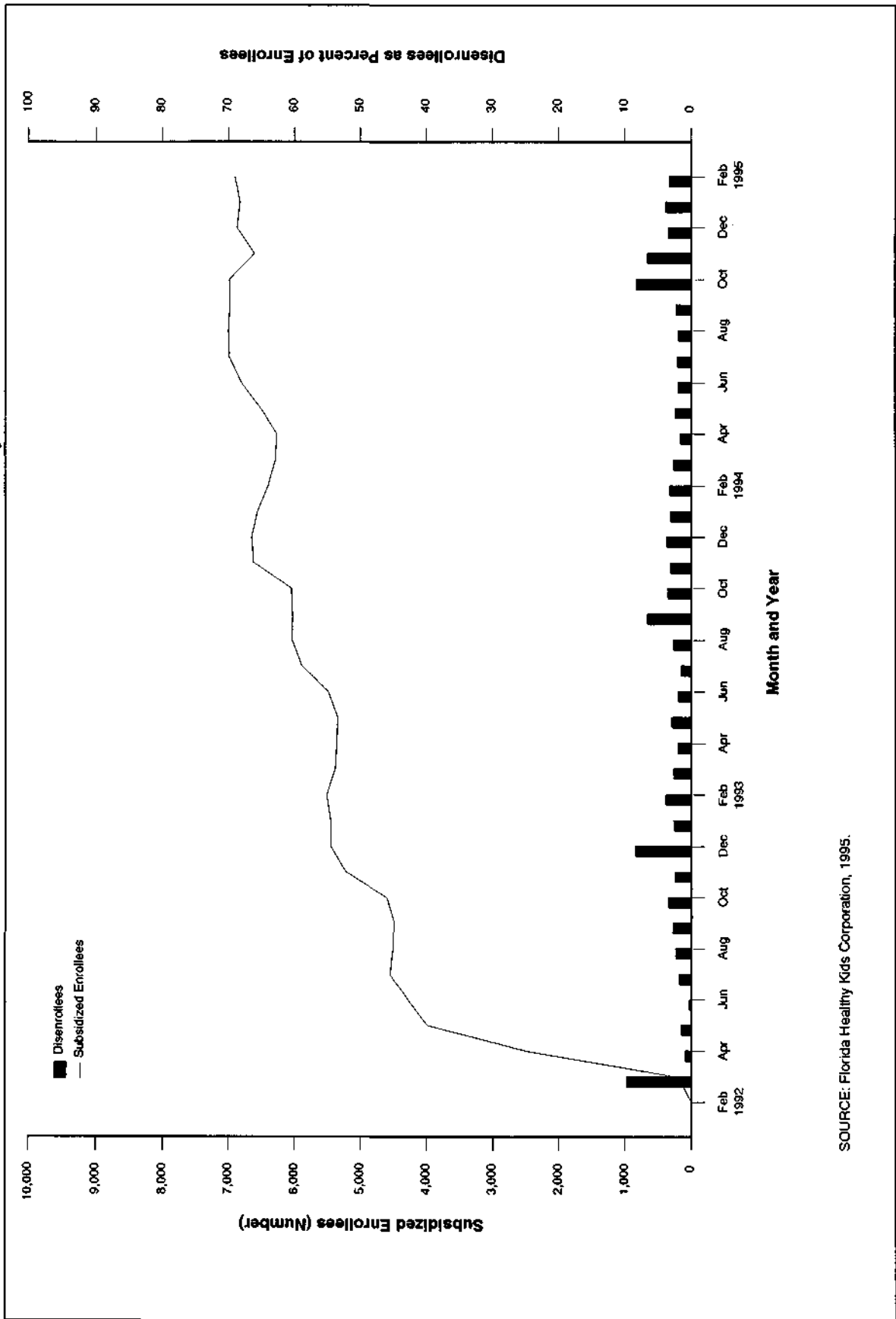
continuation of the demonstration program, funded exclusively from State, local, and private sources. At that time, subsidized enrollment levels had stabilized at 7,000 enrollees per month (Figure 2). There were approximately 300 unsubsidized (full pay) enrollees at that time.

These enrollment levels constituted a major reduction of uninsured children in the Volusia County public schools. To calibrate their significance, we need to know how many uninsured students there would have been in Volusia County, but for the demonstration. We do not have the pre/post, student-level data we would like to have for this purpose. However, we can establish a reasonable estimate of the significance of FHK enrollment levels. Consider the following. The total enrollment in the public schools of Volusia County was approximately 54,000 by 1995. At that time, the continuing enrollment in FHK totaled approximately 7,300 subscribers, including the few unsubsidized subscribers. Against that total enrollment, the pre-demonstration proportion of uninsured students was perhaps one-fourth to one-third, or what would have been approximately 13,500 to 18,000 students in 1985.³ If that many students would have been uninsured at any point in time but for FHK, then FHK's continuing enrollment (7,300) constitutes 41-54 percent of the student-months that would otherwise have been uninsured.

Thus, FHK appears to have been covering as much as one-half of the months that

³ It is a challenge to determine how many children might be uninsured, given that coverage for indigent children is episodic and fragmentary. For reasons described in the Technical Note at the end of this article, we estimate that, at most, one-quarter to one-third of Volusia County public school students were uninsured at any point in time.

Figure 2
Subsidized Enrollees and Disenrollees: March 1992-February 1995



SOURCE: Florida Healthy Kids Corporation, 1995.

public school students previously would have been without insurance.⁴ The continuation of the program under State and local auspices means that the program will continue to have a large impact on the problem of uninsured students in Volusia County.⁵

The mix of enrollees by age and subsidy group was as follows (based on enrollment data from FHKC covering the first 2 years of the demonstration):

- **Income**—Almost 35 percent of all enrollees in the demonstration were fully subsidized (i.e., below FPL), while 55 percent of all enrollees were in the 95-percent subsidy group (i.e., between 100-133 percent of FPL). Most of the remaining enrollees (9 percent of the total) were in the smallest subsidy category (134-185 percent of FPL). A very small number (3 percent of the total) were full-pay and entirely unsubsidized.
- **Age**—Over 67 percent of all enrollees were in their primary school years (5-12 years of age). Almost all of the remaining

students (29 percent of the total) were 13-19 years of age, and 4 percent were pre-school enrollees (i.e., qualified for coverage as siblings of public school students).

This distribution of enrollees was more heavily concentrated in the middle subsidy group (i.e., those families with incomes between 101-133 percent of FPL) than expected and was somewhat younger than expected.

With respect to health care needs, we do not know whether uninsured students with greater health care needs were more likely to enroll in FHK than students with lesser needs. However, available data do suggest that students were more likely to stay enrolled during the demonstration if their health care needs were greater (Coulam and Levinson, 1995).

Disenrollment

Figure 2 summarizes the proportion of enrollees who have disenrolled each month since the start of the demonstration. After the earliest months of the program, there were one or two particularly high months of disenrollments each school year (roughly, 6-8 percent of enrollees). But rates more generally have been stable—in the 3-percent range—apart from these periodic spikes in rates.

Available evidence suggests that disenrollment rates are largely involuntary (i.e., for reasons having little to do with the quality or value of FHK coverage). According to FHKC's 1994 survey of voluntary and involuntary disenrollees (Table 3), almost 87 percent of disenrollments are due to the movement of children out of eligibility categories: because they obtained another insurance policy, moved out of the area, or otherwise became ineligible for coverage (e.g., aged out of coverage or graduated).

⁴ Unfortunately, we do not have pre/post, student-level data needed to determine whether slightly over one-half of the formerly uninsured students were covered by FHK. All we can do is estimate the proportion of formerly uninsured student months covered by FHK, by comparing two quantities: the enrollment level per month of the FHK program as it ended; and the approximate number of students who would have been uninsured each month in the absence of FHK, based on pre-demonstration estimates of the prevalence of uninsured students.

⁵ Note that FHK enrollment levels in Volusia County declined in late 1995—after the demonstration was over—following large premium increases levied by local officials to support the required local contribution to the program. (For example, premiums in late 1995 were raised from zero to \$15.00 per month for children below FPL and from \$2.50 to \$20.00 per month for children between 100-133 percent of FPL.) In all, enrollment declined to approximately 4,100, a drop of nearly 40 percent. Premium increases were later moderated (e.g., by July 1996, premiums were reduced to \$10.00 per month for children from 0-135 percent of FPL). Enrollment increased thereafter to approximately 5,500, which represented a recoupment of roughly one-half of the previous enrollment loss. These post-demonstration variations in enrollment raise interesting issues about the ability of indigent families to pay for coverage. The data in this paragraph were provided by Shenkman (1996). The data were collected for her forthcoming study of FHK.

Table 3
Reasons for Disenrollment

| Reason Given by Respondent | Percent of Disenrollments |
|---|---------------------------|
| Total | 100 |
| Forms of Automatic Ineligibility | 87 |
| Obtained Another Insurance Policy | 31 |
| Child No Longer Eligible | 29 |
| Moved | 27 |
| Forms of Possible Dissatisfaction With FHK | 14 |
| Dissatisfied With Health Care Professional | 5 |
| Policy Was Canceled (e.g., Due to Non-Payment of Premium) | 4 |
| Dissatisfied With the Amount of Money Paid Monthly for the Policy | 3 |
| Plan Was Not What Was Described When Child Was Enrolled | 2 |

NOTES: N = 142. FHK is Florida Healthy Kids. Items do not sum exactly to 100 percent due to rounding.

SOURCE: Florida Healthy Kids Corporation Exit Survey, 1994.

These disenrollments imply one problem with health reform in the small, at the school-district level: People inevitably move out of such narrow eligibility categories, and with those moves comes a loss of eligibility for the insurance product. A more inclusive product, covering larger spaces of age and geography, would presumably have lower rates of exit. It is important to note that FHK coverage is an improvement over conventional, employer-based coverage, since the coverage is not interrupted by changes in employment status. However, changes in school status—a different kind of interruption—now create at least a small problem.

But if the FHK demonstration carved out only one part of the problem of the uninsured, it does appear to have done so with positive effect. Relatively few of the disenrollments (almost 14 percent) come for reasons that might directly concern the value of the coverage or dissatisfaction with the FHK product: cancellation of the policy (usually, due to non-payment of the premium), dissatisfaction with the amount of money paid for the policy, and an impression that the plan was not what was described when the child enrolled.

Overall, then, less than 0.5 percent of all enrollees—14 percent of the 3 percent who disenroll each month on average—appear to leave the program each month for reasons of expressed or possible dissatisfaction with the program. That level of possible dissatisfaction was considered low and unavoidable by local and State administrators. Satisfaction results from a separate survey tend to corroborate this judgment (see the Multivariate Analyses section later).

UTILIZATION RESULTS: ADMINISTRATIVE DATA

The extension of health coverage to uninsured populations raises questions about the needs of the population and the risks of underwriting their health care. In the FHK demonstration, program and provider staff feared high utilization rates that would raise the costs of coverage. But the actual experience has been surprising.

Expectations at the Outset

FHK was designed to provide reliable coverage and access to care for children who lacked continuous coverage before the demonstration. With FHK coverage, these children were expected to be able to catch up on much past medical neglect, and then to maintain their health and prevent the kinds of acute and chronic conditions that the lack of access to medical care had made more likely in the past.

These expectations for the program translated into expectations at the outset of the FHK demonstration as to how enrollees actually would utilize care. It was thought that there would be:

- **Pent-Up Demand**—Given poor access to medical care in the past, FHK enrollees were expected to have a backlog of untreated conditions. In addition, there

was a possibility of adverse selection from the target population, whereby those children in immediate need of intensive services would be disproportionately likely to enroll. Both poor access in the past and adverse selection in the present would lead to more intensive use of services in the earliest months of enrollment.

- **High ER Use and Other Costly Utilization**—In keeping with the expectation of Medicaid-like utilization patterns, these enrollees were expected to use care in ways that would raise the costs of their care, more or less independent of the overall volume of utilization. In particular, it was expected that enrollees would overuse costly ER services.
- **Continued High Utilization**—Even after their pent-up demand was served and their costly utilization habits were curbed, FHK participants were expected to use more health care services and to be sicker as a group than other children. According to FHCP, participating physicians were told by the plan to expect that FHK enrollees would be like Medicaid patients in their utilization of care.

These expectations were not much different from the common findings in the literature on utilization of services by low-income children. Low-income children are typically considered a high-risk group (Newacheck and Starfield, 1988; Gortmaker et al., 1990; Kliegman, 1992; Halfon and Newacheck, 1993), and their utilization of ER services is typically well above the norm for other populations (Orr et al., 1991; Halfon and Newacheck, 1993), who find poor children less likely to have a regular source of care, with the absence of a regular source of care, in turn, accounting for much of the variation in ER utilization among the studied populations.

The expectations of demonstration staff and others thus reflected a common belief about the relative utilization rates of indigent children.

Perhaps the most succinct early index of expected utilization for FHK enrollees was indirect: the estimated premium cost for FHK enrollees. In the planning stages of the demonstration, FHKC sought actuarial estimates of the likely costs of underwriting care for enrollees. A private actuary used data on Medicaid per capita costs in Volusia County and estimated that the age-adjusted costs of care for FHK enrollees would average \$62.39 per enrollee per month (after inclusion of administrative costs that the demonstration provider would bear that were not reflected in the Medicaid cost data). This figure gave FHKC a baseline for judging the reasonableness of fixed-price proposals from insurers and HMOs to underwrite the risk associated with the Healthy Kids Program. As it turned out, the actuarial estimate was not too far off from the underwriter's own estimates. The FHCP submitted a comprehensive benefit package priced at \$58.98 per enrollee per month, as noted earlier. The FHK demonstration thus began with a cost per enrollee that was close to original predictions.

FHK Utilization by Demonstration Year

Table 4 shows estimated utilization by type of service for the first 2 years of the demonstration. (Note that these data apply to the first 2 years of the program, not the first 2 years of individual enrollments.) With respect to outpatient services, the overall results were as follows. There were increases from Year 1 (March 1992-February 1993) to Year 2 (March 1993-February 1994) in the following areas:

- Office/clinic visits increased slightly, to an average of 2.99 per enrollee year by Year 2.⁶
- Consultation visits to out-of-plan providers increased by half, to 0.09 visit per enrollee year by Year 2.

There were decreases in other areas:

- Emergency room visits declined 70 percent, to 0.09 ER visit per enrollee year. This decrease was important to the demonstration, given that control of ER use was seen as a key to managing the risks of the demonstration. More will be said on this subject later.
- Optometry visits declined by one quarter, to 0.09 visit per enrollee year. This utilization was higher than expected in the first year—there was informal evidence here of pent-up demand, as many students without eyeglasses obtained them under FHK coverage. (The FHK benefits package included coverage of one pair of eyeglasses every 2 years, unless the child's head size changed.)

Overall, these aggregate results suggest that the trend in outpatient utilization was consistent, in direction at least, with the goals of the managed care provider: an increase in primary care and a decrease in some costly areas of utilization like ER use.

With respect to inpatient services, there was a clear pattern, as shown in Table 4. Whether measured in terms of the number of inpatient admissions or inpatient days, inpatient utilization increased in Year 2. Admissions increased 31 percent, to 0.017 per enrollee year. Average inpatient days increased over one-half, to 0.082 day per enrollee per year. However, inpatient utilization in the Florida demonstration remained relatively low—for example, age- and sex-adjusted inpatient days per 1,000 children totaled 66 in the Florida demonstration compared with 216 in a sample of low-income children from the 1992 National Health Interview Survey (Calore et al., 1994).

Given this overview of service utilization, we can now review a series of particular questions concerning program utilization, beginning with the question of pent-up demand.

Pent-Up Demand

The evidence for pent-up demand among FHK enrollees is relatively weak.

⁶ One context in which to view these reported office visit rates is by comparison to the frequency of visits reported in other studies targeted on low-income children. As described in the Technical Note at the end of this article, estimates of the number of physician visits per year for low-income children cluster around 3.0 visits per child per year.

Table 4
Selected Utilization Results: Year 1, Year 2, and Combined¹

| Measure of Service (per Enrollee Year) | Results per Enrollee Year | | | Percentage Change Year 1 to Year 2 |
|---|---------------------------|--------|----------|---------------------------------------|
| | Year 1 | Year 2 | Combined | |
| Outpatient Services | | | | |
| Visits to Office or Clinic | 2.92 | 2.99 | 2.96 | 2.4 |
| Visits to Emergency Room | 0.30 | 0.09 | 0.17 | -70.0 |
| Consultations | 0.06 | 0.09 | 0.08 | 50.0 |
| Optometry | 0.12 | 0.09 | 0.10 | -25.0 |
| Inpatient Services | | | | |
| Admissions | 0.013 | 0.017 | 0.016 | 30.8 |
| Days | 0.054 | 0.082 | 0.073 | 51.9 |

¹Year 1 is March 1992 through February 1993; Year 2 is March 1993 through February 1994. The "Combined" column is based on data from March 1992 through March 1994.

SOURCE: Abt Associates analysis files constructed from enrollment and utilization data provided by the Florida Healthy Kids Corporation.

For example, as shown in Table 5, beneficiaries on average used only a slightly disproportionate share of services in the first quarter of their first year of enrollment. In one area, however, utilization is clearly disproportionate in the first 3 months: ER visits. Most ER visits (84 percent) occurred in the first 3 months of enrollment. This disproportionate share of ER utilization early in enrollment might imply that pent-up demand exists, but is being served in ERs, rather than in the offices of FHCP physicians. There are other interpretations, however, based on propositions about enrollees' pre-FHK habits of utilizing ERs to obtain access to services, the maturation of the program, and the education of enrollees, physicians, and ERs to understand that FHK enrollees had a non-ER, 24-hour source of primary care. We will discuss those ER issues separately later.

Other data yield similar results (Abt Associates Inc./Health Economics Research, 1995). To be sure, there may be important sub-groups of enrollees for whom the phenomenon was important, and those sub-groups would not necessarily be revealed in the utilization data available to us. But while these caveats are important, they should not obscure the main point.

The conspicuous result of the FHK demonstration, directed broadly at uninsured school-age children, is not how large but how small the indications of pent-up demand actually were.

ER Use and Other Costly Utilization

As part of the risk of covering this population, FHKC and FHCP expected utilization to occur in particularly inefficient ways. Most important, enrollees and their families were expected to be accustomed to using such costly facilities as ERs—utilization that made sense in terms of the access and financing problems that families faced, but which were not cost effective for the system as a whole.

Much as expected, there are signs of intense use of ERs by FHK enrollees early in the program, but this early use declined dramatically. For example, as previously noted (Table 5), more than 80 percent of the ER use in the first 12 months of enrollment occurred in the first 3 months of enrollment; and there was a 70-percent decline in ER visits per enrollee from Year 1 to Year 2 (Table 4). While this yearly decline in ER use was occurring, the number of office/clinic visits rose by 2 percent (Table 4). These data suggest the possibility that

Table 5
Proportion of Total First Year Utilization Occurring in the
First Quarter of Enrollment: March 1992-March 1994¹

| Measure of Service | Enrollee's First Quarter of Enrollment ² | Enrollee's First Year of Enrollment ³ | Percent of First Year's Utilization in First Quarter |
|----------------------------|---|--|--|
| Outpatient Services | | | |
| Visits to Office or Clinic | 0.80 | 3.09 | 26.5 |
| Visits to Emergency Room | 0.16 | 0.23 | 83.6 |
| Inpatient Services | | | |
| Admissions | (4) | 0.01 | 22.3 |
| Days | 0.02 | 0.07 | 21.4 |

¹ For persons who were enrolled at least 1 year.

² Results per enrollee quarter.

³ Results per enrollee year.

⁴ Less than 0.005.

SOURCE: Abt Associates analysis files constructed from enrollment and utilization data provided by the Florida Healthy Kids Corporation.

FHK participants were substituting visits to their primary care physician or the FHCP walk-in clinic for more costly ER care, much as FHCP sought.

FHCP attributes the decline in ER use and the increase in use of primary care physicians to three features of the program. First, FHCP took deliberate steps to strengthen primary care relationships. Specifically, FHCP cultivated stronger relationships between enrollees and their primary care physicians as the program continued, so that enrollees looked in the first instance to their primary care physician rather than the ER for services. FHCP held seminars for FHK participants and tailored informational materials to the specific needs of the FHK participant population (e.g., giving bilingual presentations at convenient locations, such as area elementary schools and high schools). FHCP also tried to reach enrollees by telephone to provide additional education. Doctors were placed on-call 24 hours per day, and enrollees' families were encouraged to make a simple phone call first, before going to an ER.

These various efforts to strengthen the primary care relationship were in keeping with findings in the literature on ER use by low-income children. For example, Orr et al. (1991) report that, for children 1-9 years of age, having a regular source of care decreases the amount of care received in the ER. For children 1-9 years of age with a regular source of care, ER use makes up approximately 10 percent of all health care utilization—regardless of health insurance status. For children with no regular source of care, ER visits constitute 17 percent of all health care utilization for children with private insurance and 29 percent of all utilization for children with Medicaid coverage. Hurley, Freund, and Taylor (1989) analyzed the HCFA-funded Nationwide Medicaid Competition

Demonstrations of the mid-1980s and found that primary case managers reduced ER use by Medicaid adults and children substantially, by comparison to a sample of traditional Medicaid enrollees. These results can be read as being consistent with the findings of Orr et al. (1991), insofar as the gatekeepers for the demonstration were an alternative to ER use, much like having a regular source of care to contact in emergency situations.

A second way in which FHCP sought to reduce ER utilization was by educating ER physicians. In particular, FHCP actively worked to educate ER physicians in the Volusia County area to refer FHK enrollees to FHCP primary care physicians.

Finally, FHCP sought to reduce ER utilization by creating other, more accessible alternatives. Studies have established a significant connection between declining access and increased ER utilization (Ahern and McCoy, 1992). In the FHK demonstration, FHCP gave enrollees more congenial access to services than could be had in an ER, and enrollees may have become aware of the difference. For example, enrollees could make appointments and not be kept waiting for hours, as was often the case in an ER. At the same time, FHK enrollees were given access to FHCP's walk-in clinic to permit more spontaneous access when needs arose, and the hours of the walk-in clinic were extended to include evening and weekend hours. Together, these measures made the more cost-effective alternatives more attractive. Indeed, as one FHCP manager noted, "long waits in an ER or doctor's office are the real copayment" to parents, especially to working parents. FHCP created alternatives that sought to minimize this non-monetary copayment.

With ER utilization under better control, FHK reduced the copayment for ER services from \$25.00 to \$10.00 in February 1993 (the end of Year 1 of the demonstration), with no

copayment if the patient were referred to the ER by a primary care physician. Other copayments were also reduced at this time, reflecting FHCP's confidence that remaining risks were manageable.

Overall, the decline in ER use appears to be a concise reflection of the purposes of the program: to make health care more accessible, so that parents would take their children to see a physician at an earlier, less acute stage of illness. In the words of one State official, FHK gave parents "permission to be concerned" when their children became slightly ill, rather than pressuring them to postpone seeing a physician because the alternatives (such as the ER) were time consuming, costly, and not very user friendly.

Together, these different fragments of evidence suggest that costly utilization habits of FHK enrollees were amenable to the access, management, and education efforts that FHCP implemented. These results are consistent with the results on utilization more generally, discussed in the following section.

Expectations of Continued High Utilization

For the longer term, FHK enrollees were expected to be a riskier, somewhat sicker group than children with private insurance. As a result, even after any initial pent-up demand abated and costly utilization habits were curbed, FHCP expected FHK participants to continue to use somewhat more health care services than children in FHCP commercial groups.

These initial expectations about participant utilization of health care services proved to be unduly conservative. Risks for this population in fact were more manageable than demonstration and provider officials expected. In particular, there was little evidence that this population of indigent children used services in unusual

or particularly intensive ways. In general, utilization by FHK enrollees was less than utilization by FHCP's commercial enrollees. Table 6 provides a summary of selected utilization data from FHCP administrative records. (Note that Table 6 is based on a different dataset and different measures than the discussion in previous sections.) The data cover the period from July 1993-June 1994, a time when the FHK demonstration was mature. (For example, key changes in the demonstration had already been implemented in such areas as copayments, clinic hours, and on-call availability of primary care physicians.) The results in Table 6 are striking: For all measures of inpatient and outpatient utilization, FHK participants used slightly or substantially fewer services at less cost than FHCP's commercial (non-demonstration) enrollees. Specifically:

- FHK enrollees used less primary care than commercial enrollees, although the differences were quite small. Per member, FHK enrollees had 1 percent fewer primary care physician visits, 9 percent fewer ER visits, and 12 percent fewer specialist/referral visits.
- Differences between FHK and commercial enrollees' use of acute care services were more substantial. Per member, FHK enrollees had 23 percent fewer hospital admissions and 24 percent fewer hospital days, although lengths of stay per admission were similar for FHK and commercial enrollees. The average costs of hospital services, per day and per admission, were somewhat lower for FHK enrollees.

There are many possible reasons that utilization by FHK enrollees is below levels for FHCP's commercial clients. First, it is possible that the characteristics of the FHK and commercial groups differ in some

Table 6
Utilization by Demonstration and Commercial Group Enrollees of the
Florida Health Care Plan: July 1, 1993-June 30, 1994

| Measure | FHK Demonstration Enrollees | Commercial Enrollees ¹ | Difference Between Demonstration and Commercial Groups | |
|---|--------------------------------|--------------------------------------|---|---------|
| | | | Amount | Percent |
| per Member per Year | | | | |
| Outpatient Measures | | | | |
| Primary Care Physician Visits | 2.57 | 2.60 | -0.03 | -1.2 |
| Specialist/Referral Visits | 1.49 | 1.69 | -0.19 | -11.6 |
| Emergency Room Visits | 0.22 | 0.24 | -0.02 | -8.8 |
| Inpatient Measures | | | | |
| Hospital Admissions | 0.02 | 0.03 | -0.01 | -23.1 |
| Hospital Days | 0.07 | 0.09 | -0.02 | -23.9 |
| Surgeries | 0.06 | 0.08 | -0.03 | -32.1 |
| Days | | | | |
| Average Hospital Length of Stay | 3.45 | 3.50 | -0.05 | -1.4 |
| Dollars | | | | |
| Average Cost per Hospital Day | \$784.68 | \$840.51 | -\$55.83 | -6.6 |
| Average Cost per Hospital Admission | \$2,709.16 | \$2,994.16 | -\$285.00 | -8.0 |
| Member Months | | | | |
| Measures of Enrollment Member Months | 80,540 | 80,456 | 84 | 0.1 |

¹Utilization data in this column apply to all Florida Health Care Plan members 3-19 years of age except FHK demonstration members. Note that 98 percent of the non-FHK enrollees are members of commercial groups. Pre-school aged children are eligible for FHK when their siblings are enrolled.

NOTE: FHK is Florida Healthy Kids.

SOURCE: Data provided by the Florida Health Care Plan to Abt Associates Inc., 1995.

important ways. Most important, our utilization data are not adjusted for age or sex differences; however, as shown in Table 7, the overall age and sex composition of the FHK enrollees differs by only a percentage point or two from the age and sex composition of commercial enrollees.

But there may be other differences between demonstration and commercial groups, differences invisible in our data, and these could affect the FHK-commercial comparison. For example, it is possible that the commercial group was somehow sicker than the FHK demonstration group. That would directly contradict assumptions held at the beginning of the demonstration—to the effect that the demonstration enrollees would be sicker—but it is certainly possible that those initial assumptions were wrong. It is also possible that the demonstration enrollees had a lesser propensity to use health services, even after the education and access efforts

of the demonstration. However, available evidence tends to challenge this assumption: Demonstration enrollees used primary care about as much as commercial enrollees (Table 6), so there is little indication of a lesser propensity to use care. Finally, it is possible that the demonstration enrollees were somehow better educated to use services more cost effectively than were commercial enrollees. This could have occurred for many reasons. A school district may be a more effective setting than dispersed places of business for educating parents and their child enrollees about prevention and the appropriate use of health services. Or this may simply be an artifact of the demonstration. The FHK demonstration received a lot of attention and special effort—from FHCP, FHKC, the Volusia County School District, and others. The routine continuation of group insurance benefits at multiple employer sites would be unlikely to elicit

Table 7
Age and Sex Composition of Demonstration and Commercial Group
Enrollees 3-19 Years of Age: June 30, 1994

| Group Type and Age | Number | | | Percent | | |
|---|--------|-------|--------|---------|------|--------|
| | Total | Male | Female | Total | Male | Female |
| Commercial Enrollees | | | | | | |
| Total | 6,753 | 3,440 | 3,313 | 100 | 51 | 49 |
| 3-12 Years | 4,104 | 2,088 | 2,016 | 61 | 31 | 30 |
| 13-19 Years | 2,649 | 1,352 | 1,297 | 39 | 20 | 19 |
| Demonstration Enrollees | | | | | | |
| Total | 7,253 | 3,790 | 3,463 | 100 | 52 | 48 |
| 3-12 Years ¹ | 4,504 | 2,402 | 2,102 | 62 | 33 | 29 |
| 13-19 Years | 2,749 | 1,388 | 1,361 | 38 | 19 | 19 |
| Difference Between Demonstration and Commercial Groups | | | | | | |
| Total | 500 | 350 | 150 | 0 | 1 | -1 |
| 3-12 Years | 400 | 314 | 86 | 1 | 2 | -1 |
| 13-19 Years | 100 | 36 | 64 | -1 | -1 | 0 |

¹Note that pre-school aged children are eligible for Florida Healthy Kids only when at least one or more siblings are enrolled.

SOURCE: Data provided by the Florida Health Care Plan to Abt Associates Inc., 1995.

comparably intense or focused efforts. Whatever the reason, if demonstration enrollees were in some ways more informed and better encouraged to use services prudently, they might have acted more economically than commercial enrollees.

There are thus many different reasons why demonstration utilization might have turned out to be generally lower than utilization by commercial groups. But while many explanations are possible, the phenomenon itself is important: the FHK enrollees looked far more like FHCP's commercial enrollees than had been originally forecast by anyone. When the demonstration was being planned and initially implemented, all of the important agencies concerned with the demonstration—specifically, FHKC, FHCP, the State Medicaid program, and a health actuary—concurred that this was a risky target population. In fact, however, the management of care for this demonstration group of indigent enrollees proved to be far more tractable than anyone had predicted.

Risks and Costs of Demonstration Health Care

As the utilization of demonstration enrollees proved to be less than predicted, the amount paid to FHCP per enrollee declined, to \$46.50 by 1994. In other words, 2 years into the demonstration, costs had declined over 20 percent from original estimates, as against the 24-percent increase that demonstration planners had originally assumed (information provided by FHKC). Enrollee premiums have reflected this decline in FHCP payments.

These cost data thus serve to echo the results of the utilization data—the management of costs for this population of indigent children was more tractable than had originally been forecast by all serious observers, observers that included an experienced actuarial firm, a sophisticated HMO, and the Florida Medicaid program itself. For the Florida participants in the demonstration—public and private—these results constituted an important success. We will have more to say on this subject in the concluding section.

MULTIVARIATE ANALYSES OF ACCESS, UTILIZATION, AND SATISFACTION

In addition to the univariate results based on administrative data previously discussed, the Abt evaluation performed a series of multivariate analyses for Florida and other States in the Medicaid Extension Demonstrations. These analyses compared access, utilization, and satisfaction between children enrolled in the demonstration and children in four other coverage categories: Medicaid, private insurance, other types of insurance, and uninsured. The access analyses were performed by Rosenbach et al. (forthcoming); and the utilization and satisfaction analyses were performed by Irvin et al. (1995). Readers should consult these other sources for full reports of these analyses. But it will be helpful here to summarize their results, as they are consistent with and in certain key respects reinforce the univariate results reported here.

The data for these Florida analyses came from a survey by Abt Associates of demonstration participants and certain comparison groups (children with comparable incomes in Volusia County and a second county). In two waves, respondents were asked questions about the availability of regular care (e.g., "Does your child have a regular place for routine health care?"), the number of physician visits, the type of visits ("How many visits were for a regular checkup?"; "How many visits were because your child was sick or injured?"), ER visits ("During the past three months, how many visits has your child made to the hospital ER?"), the number of hospital stays ("How many times was your child hospitalized overnight in the past 12 months?"), satisfaction with care ("How satisfied are you with the health care your child currently receives?"), and other related issues. The

methodological approach involved comparisons of mean values of access, utilization, and satisfaction measures across different coverage groups. Tests for the effects of insurance coverage were then made in linear fixed-effects regression models.⁷

The findings from the access, utilization, and satisfaction analyses are summarized in Table 8. The most important results noted are as follows. First, with respect to access,⁸ demonstration children had significantly improved access compared with the uninsured on virtually all measures. On certain measures, FHK enrollees also had improved access compared with children with Medicaid (likelihood of reporting a regular source of care and likelihood of a doctor visit) and private insurance (likelihood of reporting a regular source of care).

Second, with respect to utilization,⁹ demonstration coverage was expected to encourage more intensive use of services. Accordingly, measures of utilization for demonstration children were expected to be significantly higher than measures for non-demonstration children. However, the data fail to show any such demonstration effect. Demonstration utilization rates in Florida were insignificantly different from the rates for all other types of coverage and for the uninsured, almost without exception across the utilization measures considered. There are only two areas where demonstration enrollees were notably different: out-of-pocket costs (significantly lower for demonstration children than for uninsured children) and

⁷ For a full discussion of the methodology of these analyses, see Abt Associates Inc./Health Economics Research (1995); Irvin et al. (1995); and Rosenbach et al. (forthcoming).

⁸ Measured as the likelihood of reporting the following: a regular source of care, a physician visit, a preventive checkup, an emergency room visit, an unmet need, or a sick day with no visit due to lack of money or other access barriers.

⁹ Measured as the reported number of each of the following: doctor visits for sickness or injury, doctor visits for regular checkups, total doctor visits, ER visits, prescriptions, out-of-pocket expenditures, hospital admissions, and hospital nights.

Table 8
Summary of Principal Multivariate Results

| Dimension | Results |
|--------------|--|
| Access | FHK children were: More likely to report a regular source of routine care than uninsured children*** or children with Medicaid***, private insurance**, or other coverage*. More likely to report having a doctor visit than Medicaid children**. Less likely to report an unmet need than uninsured children***. Less likely to have an access barrier preventing them from obtaining care when sick than uninsured children**. Less likely to report having an emergency room visit than privately insured children** or uninsured children*. |
| Utilization | FHK children had: Greater rate of reported hospital admissions than uninsured**. Lower reported out-of-pocket expenses than uninsured*. Insignificant differences on a diverse array of utilization measures, compared to Medicaid, private insurance, other coverage, or uninsured. |
| Satisfaction | FHK parents/guardians had: High levels of satisfaction with FHK coverage: 96 percent of continuously enrolled reported being "satisfied," 90 percent of those disenrolling reported being "satisfied." Higher levels of satisfaction than uninsured*** and other coverage***. |

* Significant at 0.10.
** Significant at 0.05.
*** Significant at 0.01.

NOTES: "Other" coverage refers to such coverage as CHAMPUS — i.e., other types of coverage than Medicaid, private insurance and uninsured. FHK is Florida Healthy Kids.

SOURCE: (Abt Associates Inc./Health Economics Research, 1995).

hospital admissions (significantly greater for demonstration children than for uninsured children).

These results raise a puzzle: Why do demonstration children with lower out-of-pocket costs (and presumably fewer worries about such costs as a result) fail to use significantly more services? In Florida, the most natural explanation is that active management of care by the HMO is preventing or obviating the need for access-related increases in utilization. This reason makes sense, given that these utilization comparisons contrast FHK enrollees with fee-for-service baselines—i.e., children who were generally getting their care in unmanaged fee-for-service environments. The HMO's management of utilization is not a problem from the State's point of view, so long as "needed" care is not being denied. While this issue raises notably complex and contested issues, there are three reasons that FHKC officials and others were pleased with the results:

- Beneficiary satisfaction rates were high, and FHKC's own surveys of disenrollees showed small percentages of disenrollment because of dissatisfaction with the FHK coverage.
- FHCP implemented a series of measures (e.g., on-call physicians) that would have the effect of reducing utilization in the terms of our measures. At the same time, beneficiaries have open-ended access to a walk-in clinic with extended hours for general primary care, so utilization is, to that extent, self-selected and unconstrained. The question remains as to whether FHCP is limiting care in other ways—e.g., by selectively limiting referrals to specialists, a practice that might be consistent with high overall rates of satisfaction. We have no evidence on this point.
- Utilization rates for FHK enrollees are consistent with rates of utilization in private and other forms of coverage.

Meanwhile, we can offer two other possible explanations. First, the failure of measures to change as expected could be due to some problem with the measures themselves. Our utilization measures are self-reported, and the inevitable noise introduced by this method may be obscuring the expected effects. But before we embrace this suggestion, it is worth noting that some effects—e.g., the expected difference in out-of-pocket costs—appear to be reliably reflected in our data. Second, it is possible that the families in our data tend to find ways to get needed care for their children, even when they are uninsured. In that event, something like the need for care, rather than the presence of coverage, would then be seen as driving utilization, across the ranges of income and costs of care that characterize our data. This conclusion is not consistent with the conclusions of the published literature or of our own *National Medical Expenditure Survey* (NMES) results (Abt Associates Inc./Health Economics Research, 1995). These sources generally show a significant positive association between insurance coverage and utilization. Whatever the reasons, it is at least clear that any increased utilization that occurred in the FHK demonstration does not show up in the simple rates and counts of utilization that we have.

Finally, with respect to satisfaction, the percent “satisfied” with demonstration coverage was high in Florida (90 percent for those who disenrolled after our first wave of interviews and 96 percent for those continuously enrolled). These unadjusted levels of satisfaction with care were higher for FHK than for any other coverage; and satisfaction coefficients were significantly higher for FHK than for other coverage and uninsured. These levels of satisfaction with demonstration coverage suggest that FHCP’s management of care (as might be

preventing any increase in simple utilization measures, as previously speculated) is not notably provocative to the general enrollee population.

Thus, according to self-reported measures, FHK was associated with improved access compared with children who were uninsured. The demonstration also was associated with improved satisfaction compared with all other children. But the demonstration had little, if any, effect on measures of utilization, except in the area of out-of-pocket costs.

SIGNIFICANCE OF THE FLORIDA DEMONSTRATION

The basic mandate for the Medicaid Extension Demonstrations was to carry out innovative programs to extend health coverage to children. The Florida demonstration met that mandate. In this section, we will summarize the significance of what was accomplished.

Replication of the FHK Model

The initial idea for the FHKC was not that it would become an operating agency, but rather that it would be an incubator of school-enrollment-based health coverage for uninsured children. Working at the behest of key elected officials at the State level, and working with the school district and providers in Volusia County, FHKC developed an important program infrastructure that did not exist before the demonstration. The product can now be replicated with a fraction of the effort required to accomplish the first program in Volusia County. Unlike the demonstration in Volusia, the continuation and further expansion of the FHK model is entirely funded by State, local, and some private funds (Federal funding continued only through the 3-year demonstration, and

FHK is not formally a part of the State's Medicaid program). The absence of Federal participation presents a greater State and local financial burden, but frees the expansions from many Federal requirements (e.g., that participants below 100 percent of FPL be subsidized in full).¹⁰

As the 3-year demonstration was drawing to a close in 1995, FHKC was actively working to replicate the demonstration model in other counties. FHKC accepted applications from school districts on a continuing basis. This replication effort has been substantial. As of February 1997, FHK had been replicated in 16 counties of Florida, including the largest, and some of the most urban, counties in the State, such as Broward, Dade, Duval, Pinellas, and Palm Beach. Altogether, these 16 counties account for one-half of the public school enrollment in the State, and statewide enrollments in FHK are expected to reach 47,850 students by February 1997. FHK will be a cornerstone of health reform in Florida, whatever happens in the remaining counties.

The State legislature has considered proposals to extend the FHK model statewide, but FHKC and others have resisted this mandated extension of the program. Reasons for this opposition go back to one of the key premises of the FHK demonstration: that the project should build on local initiative and commitments. Thus far, FHKC has avoided a statewide program and continues to seek replication district by district, rather than by mandate.

Beyond Florida, the Healthy Kids model has attracted national attention. The Robert Wood Johnson Foundation has

announced funding for a National Program Office to provide technical assistance and to oversee grant management to support duplication of FHK's school-enrollment based model in as many as seven additional States. The National Program Office will share quarters with the Florida program, but will have its own staff, budget, and accountability (Florida Healthy Kids Corporation, 1996).¹¹

Healthy Kids and Health Reform

On its own terms, the Healthy Kids Program has been impressive in ways noted throughout this article. However, the approach has certain costs that are, in a sense, the price of its virtues. Those costs might matter in the unfolding efforts at broader health care reform in Florida and other States. A county-level, school-based program establishes a substantial role for local initiative. This is retail health care reform—school district by school district, which requires relatively intensive management commitments at the State level. Meanwhile, Healthy Kids addresses only one part of the uninsured population—children—but leaves other parts of that population (principally, adults) without coverage. Healthy Kids contrasts with wholesale reform strategies that attempt to pursue the same objectives of coverage for the uninsured, but through more centralized programs and financing mechanisms.

To say the least, most wholesale reform strategies are subject to serious critiques as well (note critiques of the Medicaid expansions for children [Sardell, 1990] and pregnant women [Braveman et al., 1993]).

¹⁰ This freedom gave local officials in Volusia County the opportunity to raise premiums for all subsidized enrollees—one important effect of which was to reduce enrollment, as previously discussed. In other words, in this particular county, the assertion of greater local control for the longer term meant a decline in subsidies and a reduction in coverage of otherwise uninsured children.

¹¹ Readers interested in finding out more about the FHK model of school-based coverage should contact Ms. Rose Naff, Executive Director, Florida Healthy Kids Corporation, 223 South Gadsden Street, Tallahassee, FL 32301; Telephone: (904) 224-5437; Fax: (904) 224-0615.

But it is at least important to note that a strategy of reform that capitalizes on local efforts, local commitments, and a local vehicle—the schools—will be less desirable if other States, in the end, choose to approach reform in a more centralized way.

Advantages and Disadvantages of School-Based Coverage

One reason the program succeeded in reaching the target population was that the coverage was based in the public schools. First, and perhaps most important, school-based enrollment was an effective way to define a group for insurance purposes. School-based coverage was divorced from parents' employment relationships, and thereby avoided one source of instability in ordinary health coverage for indigent family members.

Second, school-based coverage provided advantages for eligibility determination. At the outset of the demonstration, there were complexities in implementing eligibility processes based on school-lunch program data, largely due to the confidentiality of these data and the need to establish appropriate arrangements to obtain access to the data. These problems were resolved in the initial development work of the demonstration. Thereafter, according to accounts of State, FHKC, school, and provider staff, the school-based enrollment process became an administratively simple way to determine eligibility for Healthy Kids. Because this mechanism for income verification was already in place for the school lunch program, FHKC's income verification required little more than a simple monthly tape match. The eligibility process ran very smoothly, without the extensive documentation requirements or other problems commonly faced by subsidized public programs to determine income eligibility.

Third, in addition to such administrative advantages, the school-based setting also facilitated marketing to the target population. According to one demonstration official, despite the array of publicity mediums used (including public service announcements and considerable newspaper coverage), approximately 80-90 percent of applicants indicated that they had heard about the Healthy Kids Program in school. In the words of one FHCP official, "Families trust the schools." It was accordingly easier to get information to families, to run educational seminars, and to keep families informed.

For all these advantages, there were certain problems in basing FHK in the schools. The confidentiality issues surrounding the school lunch enrollment list have made it administratively cumbersome to use school lunch information for other purposes—e.g., to target marketing efforts directly at students participating in the school lunch program. Another problem mentioned by FHKC staff is low enrollment among older (middle school and high school) children, possibly due to the stigma of applying for the school lunch program. (However, to an undetermined extent, this decline in upper-school enrollment may be due to a correlation between family income and the age of children.) Finally, public-school-based enrollment excludes indigent children who are outside the public school system, e.g., because they attend private schools, receive home-schooling, or have dropped out. The extension of eligibility to these excluded groups has obvious advantages, but it requires the introduction of a supplemental income verification process. Indeed, some Florida counties have included private and home schools in their Healthy Kids Programs by using supplementary eligibility processes. But this kind of

expansion is not so simple as coverage piggy-backed on the school lunch program in the public schools.

Importance of Non-Financial Barriers to Care

One key to the success of the Florida demonstration was the performance of the managed care provider, FHCP. By giving one organization an interest in the enrollees' utilization across the board, the demonstration provided an incentive for the provider to encourage improved health behaviors. And with all utilization under the management of one organization, control was less dispersed across providers. FHCP could take specific steps—such as extending walk-in clinic hours and placing doctors on-call 24 hours—that would affect access for a large percentage of enrollees and more directly address certain costly health behaviors (e.g., ER use).

Essentially, all parties to the demonstration expected FHK participants to continue to use more health care services than children in FHCP commercial groups and to be costlier as a result. But after the slight evidence of pent-up demand early in the demonstration, there was little evidence that this population of indigent children used services particularly intensively. More generally, utilization by FHK enrollees was similar to utilization by FHCP's commercial enrollees—and ER use and other costly behaviors proved amenable to education and the provision of specific, accessible clinic alternatives. In the end, the FHK enrollees looked far more like FHCP's commercial enrollees than had been originally forecast.

As the utilization of demonstration enrollees proved to be less than predicted, the costs of the demonstration actually

declined, even as benefits were being slightly liberalized (e.g., copayments were reduced). For a health care program to experience a decline in medical assistance costs during these years was a great surprise to all concerned. An FHCP official has a simple and provocative answer as to why the care for the demonstration enrollees proved so manageable: "If you treat [the demonstration kids] like commercial clients, they behave like commercial clients." And there were signs that these results were achieved even as FHK enrollees had greater access and satisfaction than was true for at least some other major payers.

The fact that this happened in the Florida demonstration is no guarantee that it would happen with every managed care program. But the Florida experience raises an interesting possibility. One concern about capitated managed care is that providers will act on short-run financial incentives to limit beneficiaries' access to needed, but costly, care. The Florida demonstration suggests an alternative possibility: that the managed care provider could use its control to manage access to improve the ways that enrollees are able to receive care. Others have noted this possibility (Goldman, 1993). In the limit, this proposition provides a powerful reason to bring managed care and deliberate programs of access to uninsured populations, rather than bringing programs of financial coverage alone.

TECHNICAL NOTES

The following notes address two issues raised in this article: the proportion of uninsured children in Volusia County and the number of physician visits by low-income children.

Proportion of Uninsured Children in Volusia County

Estimates of the proportion of school-age children in Volusia County who are uninsured vary depending on such factors as how "uninsured" is defined (e.g., whether it takes account of comprehensive coverage or catastrophic coverage only) and over what time period it is measured (e.g., whether point-in-time or over a longer period). The latter issue is not a small concern, since the natural product of insurance coverage linked to employment is that indigent children may experience recurring periods when insurance is not available. The most comprehensive study of insurance status—the 1987 NMES—attempted to address these concerns by collecting insurance information in several waves over the survey year. NMES collected data on all sources of coverage and estimated that, in 1987, 16.9 percent of children 6-18 years of age nationwide had no health insurance and 15 percent of children in families with a working parent were uninsured (Short, Monheit, and Beauregard, 1989). NMES confirmed that most of the uninsured under 65 years of age were workers and their families.

Other estimates of the proportion of uninsured children apply more directly to Volusia County, but are based on data sets that are less credible than NMES. In a study for the Institute for Child Health Policy (ICHP) of the Florida State University system, Kilgore (1991) estimated that 25 percent of all students in Volusia County did not have "any coverage" over the preceding 6-month period before the 1991 survey. If this estimate were accurate, the proportion of children with no coverage at a particular point in time would be somewhat larger—e.g., perhaps one-third. An earlier ICHP study (Freedman, Duncan, and Klepper, 1988) found that 15

percent of all Florida children under 17 years of age were not insured for hospitalization, while 29 percent were not insured for physician visits. Cartland and Yudkowsky (1993) pooled data from the Current Population Survey (CPS) for 1987-89 and estimated that 22 percent of all Florida children under 21 years of age were uninsured during a prior year. Newacheck, McManus, and Gephart (1992) analyzed data from the National Health Interview Survey for 1989 and concluded that 15 percent of U.S. adolescents 10-18 years of age were uninsured, with the highest proportion (21 percent) among southern states.

Based on these data, we would estimate that, at most, one-quarter to one-third of Volusia County public school students were uninsured at any point in time. This range is notably conservative for two reasons. First, it is at the high point of published estimates covering immediate pre-demonstration periods. Second, it is not reduced to take account of progressive expansions in conventional Medicaid coverage mandated by OBRA 1990 for children up to 100 percent of FPL—expansions that occurred after these surveys. (As shown in Figure 1, Florida children up to 11 years of age and 100 percent of FPL were covered by Medicaid by early 1995.) As a result, the actual proportion of uninsured students was likely lower than our estimates. To that extent, the discussion in the text understates the effect of the demonstration on the remaining students who otherwise would be uninsured.

Number of Physician Visits by Low-Income Children

Estimates of the number of physician visits per year for low-income children cluster around 3.0 visits per child. For example, Rosenbach (1989) reports that

U.S. children in families with incomes below 150 percent of FPL in 1980 had an average of 2.7 physician visits. Abt Associates Inc./Health Economics Research (1995) analyzed data on low-income children in the 1987 NMES and found a range of physician visits per year that depended on the insurance status of the child: 2.1 physician visits per year for children with no insurance, 2.8 for children with a full year of Medicaid, 3.0 for children with a full year of private insurance, and 4.0 for children with a mix of Medicaid and private insurance through the year. Newacheck and Starfield (1988) report that children with no reported morbidities from families with incomes below \$10,000 (roughly 100 percent of FPL for a family of three) had 3.0 physician contacts per child per year, while moderate- and high-income children averaged 2.8 physician contacts per child per year. An analysis of more recent data from the 1992 National Health Interview Survey (Calore et al., 1994) estimates the number of physician visits per school-aged child at 3.4-3.6, depending on income (those below FPL using slightly more visits and those at 100-200 percent FPL using slightly fewer visits). By age, children 5-12 years of age had 2.8 visits per year, children 13-17 had 3.1 visits per year, and children 18-19 years of age had 3.9 visits per year.

Together, these different studies on primary care utilization suggest that the observed data for Years 1 and 2 of the FHK demonstration were within the range of other studies. Of course, a finer matching among populations in these different studies would be necessary to establish firm comparisons among the different utilization estimates.

REFERENCES

- Abt Associates Inc./Health Economics Research: Evaluation of the Medicaid Extensions: Final Report. Prepared for the Health Care Financing Administration under Contract No. 500-87-0030. Cambridge, MA. Abt Associates, Inc., June 30, 1995.
- Ahern, M., and McCoy, H.V.: Emergency Room Admissions: Changes During the Financial Tightening of the 1980s. *Inquiry* 29:67-79, Spring 1992.
- Braveman, P., Bennett, T., Lewis, C., et al.: Access to Prenatal Care Following Major Medicaid Eligibility Expansions. *Journal of the American Medical Association* 269(10):1285-89, March 10, 1993.
- Calore, K.A., Coulam, R.F., Glass, R., et al.: Evaluation of the Medicaid Extensions: Draft Interim Report. Prepared for the Health Care Financing Administration under Contract No. 500-87-0030. Cambridge, MA. Abt Associates, Inc., September 1, 1994.
- Cartland, J.D., and Yudkowsky, B.K.: Barriers to Pediatric Referral in Managed Care Systems. *Pediatrics* 89(2):183-92, February 1992.
- Cartland, J.D., and Yudkowsky, B.K.: DataWatch: State Estimates of Uninsured Children. *Health Affairs* 12(1):144-51, Spring 1993.
- Coulam, R.F., and Levinson, J.: Evaluation of the Medicaid Extensions—Florida Healthy Kids Demonstration: Final Report. Prepared for the Health Care Financing Administration under Contract No. 500-87-0030(4). Cambridge, MA. Abt Associates, Inc., May 1, 1995.
- Florida Healthy Kids Corporation: Addendum to Annual Report. Tallahassee, FL. September 1996.
- Freedman, S.A., Duncan, R.P., and Klepper, B.R.: *Florida Health Insurance Survey of Families With Children*. Institute for Child Health Policy, State University System of Florida. 1988.
- Gortmaker, S.L., Walker, D.K., Weitzman, M., and Sobol, A.M.: Chronic Conditions, Socioeconomic Risks, and Behavioral Problems in Children and Adolescents. *Pediatrics* 85(3):267-76, March 1990.
- Goldman, B.: Improving Access to the Underserved Through Medicaid Managed Care. *Journal of Health Care for the Poor and Underserved* 4(3):290-98, 1993.
- Halfon, N., and Newacheck, P.W.: Childhood Asthma and Poverty: Differential Impacts and Utilization of Health Services. *Pediatrics* 91(1):56-61, January 1993.

- Hurley, R.E., Freund, D.A., and Taylor, D.E.: Emergency Room Use and Primary Care Case Management: Evidence From Four Medicaid Demonstration Programs. *American Journal of Public Health* 79(7):843-847, July 1989.
- Iglehart, J.K.: Health Policy Report: Medicaid and Managed Care. *New England Journal of Medicine* 332(25):1727-31, June 22, 1995.
- Irvin, C.V., Kidder, D.E., Rosenbach, M.L., and Coulam, R.F.: Utilization and Satisfaction Results in the Medicaid Extension Demonstrations. Unpublished working paper. Prepared for the Health Care Financing Administration under Contract No. 500-87-0030. Cambridge, MA. Abt Associates, Inc., June 30, 1995.
- Kilgore, J.: Family Health and Insurance Survey of Volusia and Pasco County School Children: May 1991. Prepared by the Institute for Child Health Policy, Florida State University System. August 8, 1991.
- Kliegman, R.M.: Perpetual Poverty: Child Health and the Underclass. *Pediatrics* 89(4):710-13, April 1992.
- National Governors' Association: *State Coverage of Pregnant Women and Children—July 1993*. Washington, DC. December 1993.
- Newacheck, P., and Starfield, B.: Morbidity and Use of Ambulatory Care Services Among Poor and Nonpoor Children. *American Journal of Public Health* 78(8):927-33, August 1988.
- Newacheck, P., McManus, M.A., and Gephart, J.: Health Insurance Coverage of Adolescents: A Current Profile and Assessment of Trends. *Pediatrics* 90(4):589-96, October 1992.
- Orr, S.T., Charney, E., Straus, J., and Bloom, B.: Emergency Room Use by Low Income Children With a Regular Source of Health Care. *Medical Care* 29(3):283-86, March 1991.
- Rosenbach, M.L.: The Impact of Medicaid on Physician Use by Low-Income Children. *American Journal of Public Health* 79(9):1220-26, September 1989.
- Rosenbach, M.L., et al.: Access to Care for Low-Income Children: Is Health Insurance Enough? Forthcoming.
- Sardell, A.: Child Health Policy in the U.S.: The Paradox of Consensus. *Journal of Health Politics, Policy and Law* 15(2):271-304, Summer 1990.
- Shenkman, E.: Personal communication. Institute for Child Health Policy, University of Florida. 1996.
- Short, P.F., Monheit, A.C., and Beauregard, K.A.: *A Profile of Uninsured Americans: National Medical Expenditure Survey Research Findings 1*. Pub. No. DHHS/PHS-89-3443. Rockville, MD. National Center for Health Services Research, Public Health Service, 1989.
- U.S. Department of Commerce: *1990 Census of Population: Social and Economic Characteristics, Florida*. Washington, DC. U.S. Government Printing Office, 1993.

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