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OUTCOMES OF CARE FOR CHILDREN ENROLLED IN *hawk-i*

Introduction

This report presents results from an analysis of outcomes of care for children enrolled in the Healthy and Well Kids in Iowa program (*hawk-i*). The analyses were conducted by The University of Iowa Public Policy Center for the Iowa Department of Human Services (IDHS). The *hawk-i* program is that portion of the Iowa State Child Health Insurance Program (SCHIP) that exists separately from Medicaid and provides services to children in families with incomes between 133% and 200% of the Federal Poverty Level (FPL). The IDHS contracts with John Deere Health Plan, Iowa Health Solutions and Wellmark Blue Cross/Blue Shield to provide services to *hawk-i* enrollees on a county-by-county basis. This report provides a summary of the results for 10 different outcomes of care in four different service areas: preventive visits for children and youth, dental visits, Measles, Mumps and Rubella (MMR) immunizations, and behavioral and emotional health visits. The results are presented separately for each of the three health plans.

This first evaluation of outcome measures is part of the quality assurance activities for the *hawk-i* program. The measures were adapted from the Healthplan Employer Data and Information Set (HEDIS).¹ HEDIS is a set of measures developed by the National Committee for Quality Assurance (NCQA) for evaluating the outcomes of health plans. The *hawk-i* clinical advisory committee, in collaboration with researchers from the University of Iowa Public Policy Center, identified the four service areas. These HEDIS measures were then adapted to fit the available *hawk-i* data. The HEDIS outcome measures (i.e., utilization rates) were determined through an analysis of claims, encounter, and eligibility data for children in each of the *hawk-i* health plans. The inter-plan comparisons presented here allow us to determine whether the plans are meeting the expectations for care provision within the *hawk-i* program.

Outcome data should always be interpreted with caution. Limitations of this data may include differential rates of missing data across the plans, the systematic use of inappropriate codes, or the miscoding of diagnoses. Despite these limitations, important knowledge is gained by comparing outcome results between plans.

Outcomes of care for children in *hawk-i*

Preventive care for children and youths

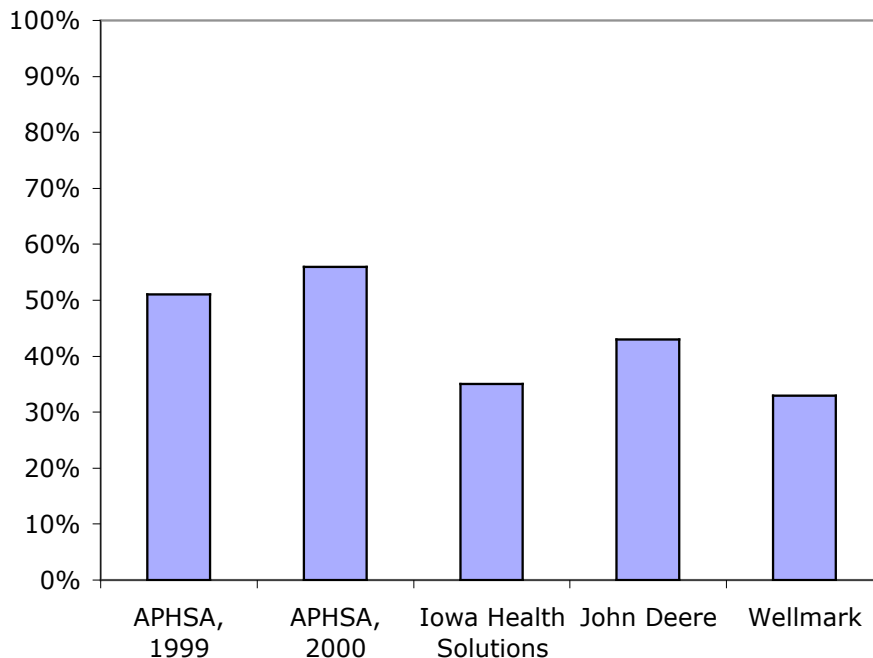
The rate of children and youths with a preventive visit is divided into two age categories: children ages 3-6 and youths ages 12-19 (Figures 1-4). According to the American Academy of Pediatrics (AAP) periodicity schedule,² children should receive annual visits at ages three, four, five and six, and biannual visits at ages eight and ten. Annual visits should again be made during adolescence for ages 11 through 21. Preventive visits do more than address the medical needs of the child; they can provide an opportunity for anticipatory guidance to parents and children.

¹ National Committee on Quality Assurance. The Healthplan Employer Data and Information Set (HEDIS). Available at <http://www.ncqa.org/Programs/HEDIS/>. Most recently accessed October 3, 2003.

² American Academy of Pediatrics. Policy statement on Recommendations for Preventive Pediatric Health Care. *Pediatrics*. Vol. 105, Number 03, March 2000, pp. 645. Available at <http://www.aap.org/policy/re9939.html>. Most recently accessed October 3, 2003.

Figure 1 compares data for children in the three *hawk-i* plans to data from a report by the American Public Human Services Association (APHSA),³ which provides a national benchmark for this HEDIS measure for children three through six years of age in Medicaid plans in 1999 and 2000. This comparison indicates that all three *hawk-i* plans have rates of preventive visits for this age group that are below the national averages for Medicaid programs. In a previous report, *Evaluating the Iowa Medicaid Managed Care Program: Outcomes of Care*,⁴ we reported preventive visit rates for children ages 3-6 in the Iowa Medicaid program. These rates ranged from 52% for United Health Care to nearly 80% for children in the MediPASS program. Preventive care rates for children in all of the Medicaid plans were above the APHSA rates for 1999 and well above the rates for the plans within *hawk-i*. In fact, over 60% of children ages 3-6 in the Medicaid program enrolled in Iowa Health Solutions for at least 11 months had a preventive visit during 2000, while only 35% of children 3-6 in *hawk-i* enrolled in Iowa Health Solutions for at least 11 months had a preventive visit. The differential for John Deere was 63% versus 43%. As Wellmark does not participate in the Medicaid managed care program, comparable figures are not available. These findings indicate either that the plans or their providers are not as effective in providing access to preventive care for children within *hawk-i* or that limitations of this data such as differential rates of missing data across the plans, the systematic use of inappropriate codes, or the miscoding of diagnoses may have affected the rates.

Figure 1. Rate of preventive medical visits for children 3-6 years of age enrolled for at least 11 months by plan and compared to APHSA rates



³ American Public Human Services Administration. Available at <http://www.aphsa.org/>. Most recently accessed October 3, 2003.

⁴ Momany ET, and Damiano PC. *Evaluating the Iowa Medicaid Managed Care Program: Outcomes of Care*. Final report to the Iowa Department of Human Services, January 2003. University of Iowa, Public Policy Center, Iowa City, IA.

Figures 2 and 3 indicate the percentages of children receiving preventive care at each age in the group (ages 3, 4, 5 and 6) during FY 2001. Figure 2 shows rates for all children in *hawk-i*, while Figure 3 includes only children who were eligible for 11 or 12 months during 2001. In general, children seem to receive the most preventive care visits during the fourth and fifth years of life, as parents prepare to send them to school. Within all ages there is variation among the plans; however, the variation was most apparent for rates when only those children who were eligible for 11 and 12 months were included in the calculations (Figure 3).

Figure 2. Percent of children with a well child visit in fiscal year 2001 by age and plan

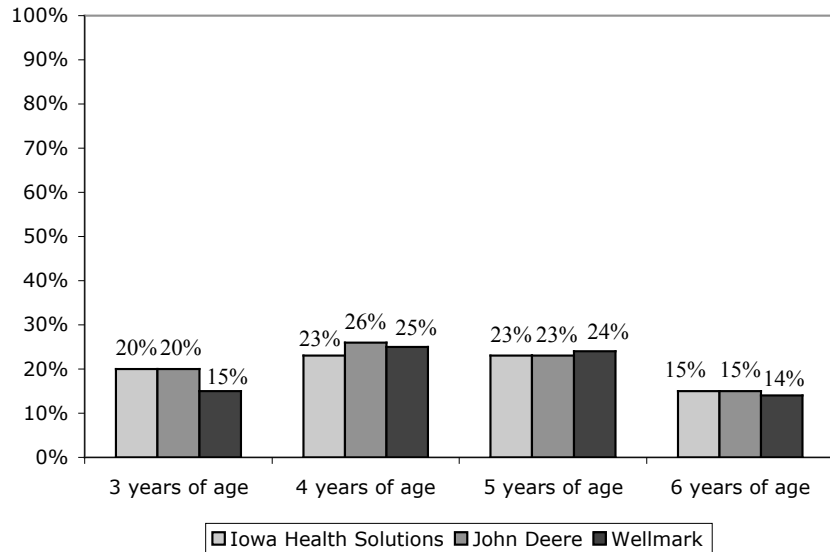
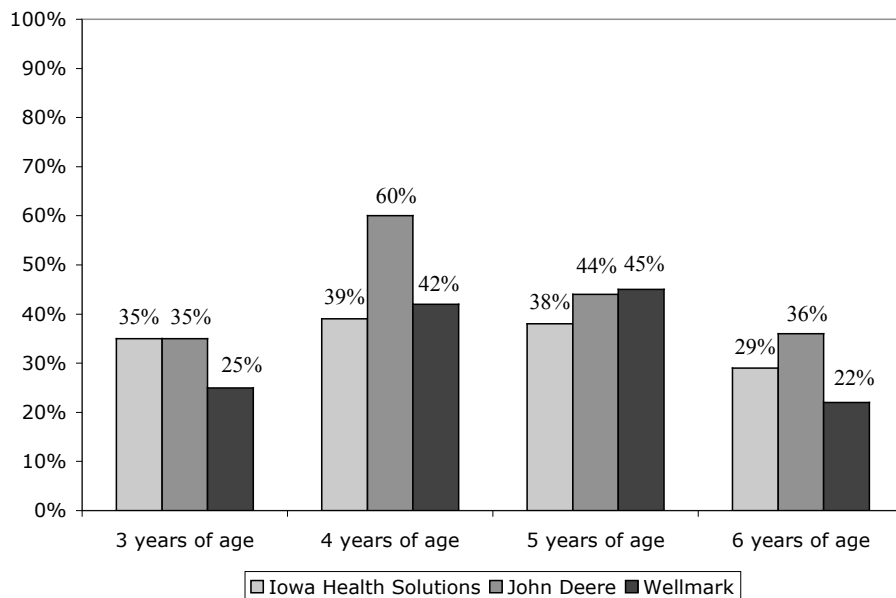


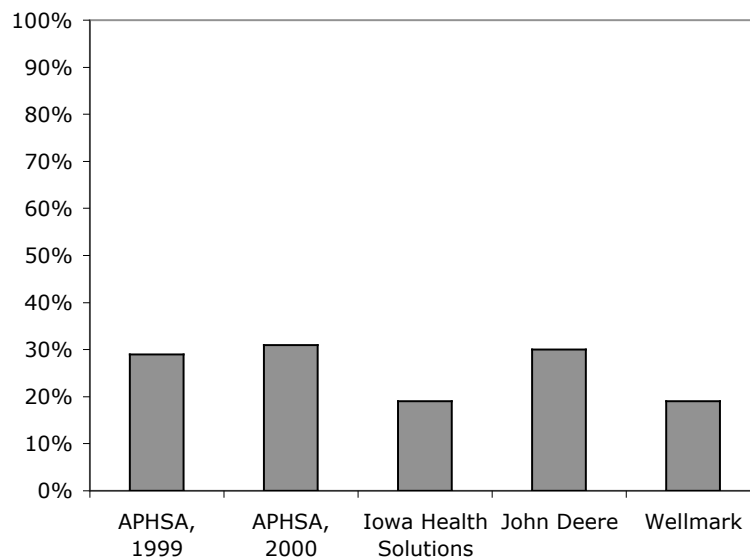
Figure 3. Percent of children enrolled in a plan for at least 11 months with a preventive medical visit in fiscal year 2001 by age and plan



The rates of youths enrolled for at least 11 or 12 months during FY 2001 with at least one preventive medical visit are shown in Figure 4. The rate of preventive visits for youths in John Deere is comparable to the national average; however, the rates for youths in Iowa Health Solutions and Wellmark are well below this average. John Deere and Iowa Health Solutions also have rates for youth preventive care that are below the rates found for youths enrolled in these plans through the Medicaid program. Generally, the rates for preventive care are low within the three *hawk-i* plans, especially when compared to the AAP guidelines for annual visits during adolescence.

As with the rates for preventive medical visits among children 3-6 years, the rate differentials for the same plan across the two programs (*hawk-i* and Medicaid) are worrying. *hawk-i* is a new program with a larger percentage of enrollees who have not been enrolled before. These results may indicate that those within a long-established program may find it easier to link to providers and obtain preventive care. The results also indicate that feedback to the plans and monitoring will be necessary to assure future improvement.

Figure 4. Rate of preventive medical visits for youths 12-19 years of age enrolled for at least 11 months by plan and compared to APHSA rates



Preventive dental care for children and youths

In addition to regular preventive medical visits, it is recommended that children have regular preventive dental visits. Although the AAP does not have a periodicity schedule for dental visits, the American Academy of Pediatric Dentistry guidelines indicate that beginning at age one, children should have preventive dental procedures “every 6 months or as indicated by individual patient’s risk status/susceptibility to disease.”⁵ Figure 5 indicates the rate of preventive dental visits for children and youths for the three plans across four different age categories: 2-6, 7-11, 12-15, and 16-18. In this figure, rates are calculated for all children regardless of length of

⁵ American Academy of Pediatric Dentistry. 2003-2004 Policy guidelines: Periodicity of Examination, Preventive Dental Services, Anticipatory Guidance and Oral Treatment for Children. Available at <http://www.aapd.org/media/policies.asp>. Most recently accessed October 3, 2003.

enrollment. Figure 6 provides the same rates, but includes only children who were eligible for at least 11 months during FY 2001. These rates were calculated according to the protocol established for the HEDIS dental outcome measures. Across all age groups in both figures, children in Iowa Health Solutions had the lowest rates of preventive dental care. Preventive dental utilization rates for children in Wellmark and John Deere were more comparable.

Figure 5. Percent of children with a preventive dental visit in fiscal year 2001 by age and plan

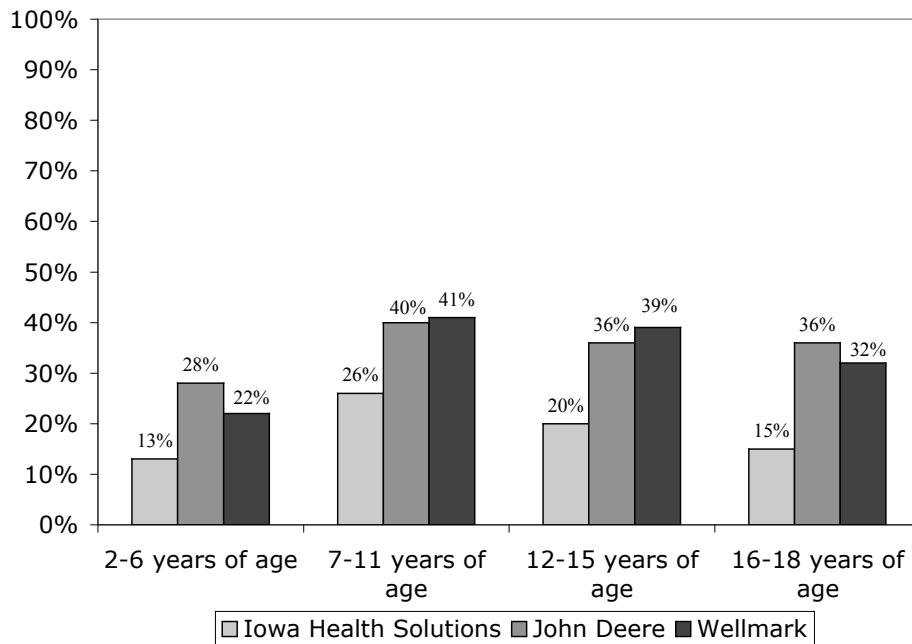
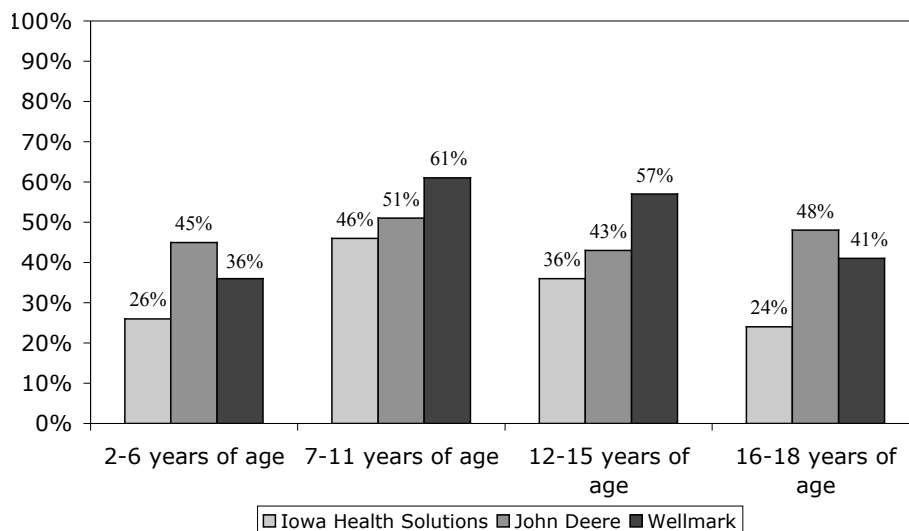
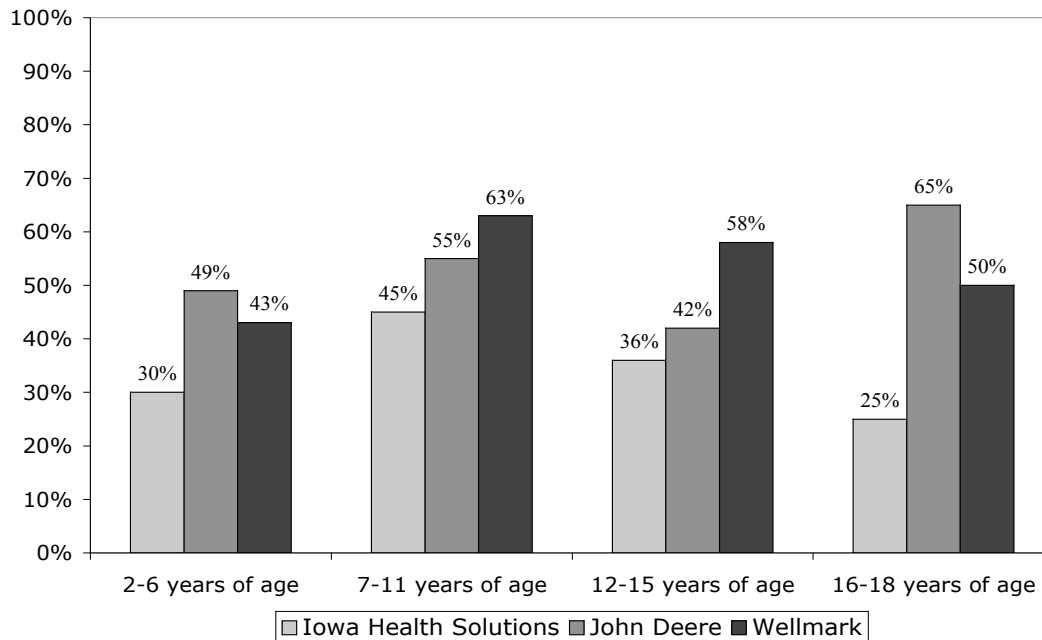


Figure 6. Percent of children enrolled in a plan for at least 11 months with a preventive dental visit in fiscal year 2001 by age and plan



The rates for children who had any dental visit, not just a preventive dental visit, and who were enrolled for at least 11 months are presented in Figure 7. Once again, children in Iowa Health Solutions had the lowest visit rates regardless of age group.

Figure 7. Percent of children enrolled in a plan for at least 11 months with any type of dental visit in fiscal year 2001 by age and plan

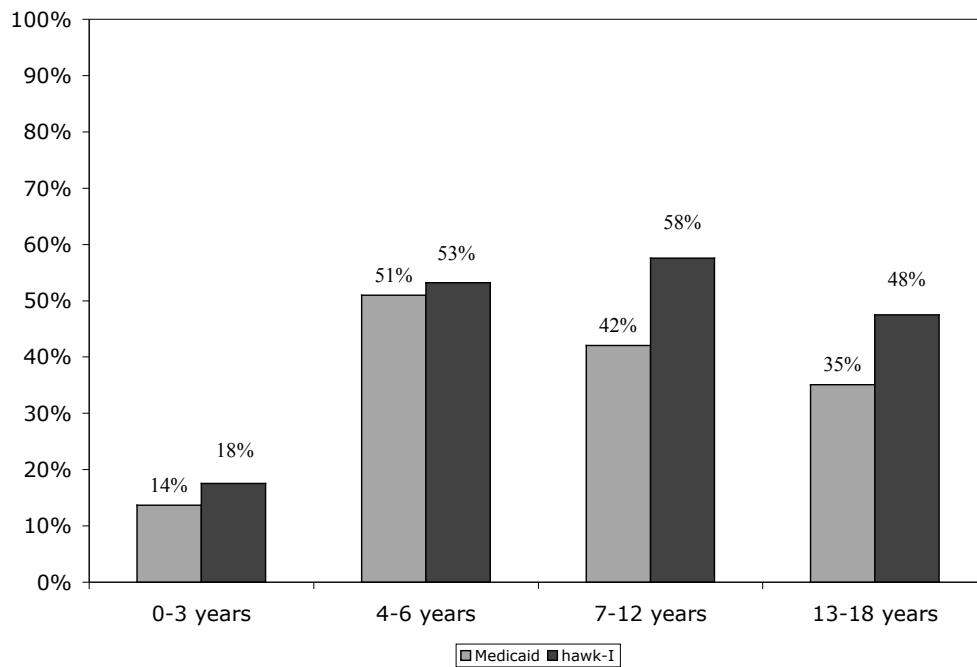


Across the three figures, for children ages 2-6 and 16-18, John Deere had the highest utilization rates, while for children 5-15, Wellmark had the highest utilization rates.

The consistently low rates for Iowa Health Solutions should be of concern. For some age groups the rates for this plan were less than half those of the other plans. This may be due to poor access to providers, geographic differences in practice and care seeking, or ineffective communication regarding the services and providers available to enrollees. Further investigation is needed to monitor these rates over time and to determine the factors that underlie the rate differentials.

Figure 8 compares dental rates for children enrolled in Medicaid to those of children enrolled in the *hawk-i* program for at least 11 months. Children in *hawk-i* had consistently higher rates of utilization than children in the Medicaid program for this measure. This may be due to increased need in the population entering *hawk-i*, or it could be that the managed care plan dental panels offer enhanced access to dentists.

Figure 8. Comparison of dental utilization rates for children enrolled for at least 11 months in Medicaid or *hawk-i*



Childhood immunization status - MMR

The *hawk-i* program has been operational since January 1, 1999. Children under 1 year of age are not included in the program because they are covered through Medicaid. Therefore, when determining which vaccinations to study for the outcome measures, any vaccination series that required administration prior to the first birthday had to be eliminated. As a result, DTP/DtaP, OPV/IPV, HiB, and Hepatitis B vaccinations were excluded from the outcome analyses. The chicken pox vaccine was eliminated because it was not made mandatory in Iowa until July 1, 2003. The MMR was thus the only vaccination appropriate for outcome analysis.

All children born in 1999 were followed with administrative data to determine the dates at which they should have received an MMR. According to the HEDIS methodology, the MMR should be administered during the year between the first and second birthday. Using the eligibility data, we determined the number of months each child was enrolled in the *hawk-i* program during the year between his or her first and second birthday. Table 1 indicates that the majority of children were enrolled in Wellmark during this time. Enrollees in the John Deere plan were more likely to have had fewer months in the plan during the immunization period. This was primarily due to the fact that John Deere agreed to participate in the *hawk-i* program later than the other two plans.

Table 1. Number of children born in 1999 and enrolled between their first and second birthday by months of enrollment and plan

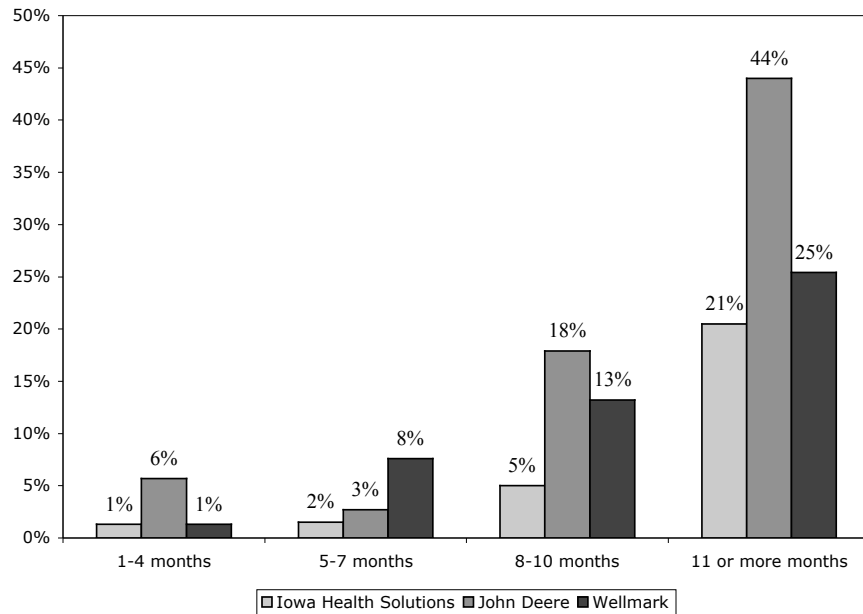
Number of months	Iowa Health Solutions	John Deere	Wellmark
1-4 months	79 (29%)	53 (37%)	160 (28%)
5-7 months	65 (23%)	37 (26%)	145 (25%)
8-10 months	60 (22%)	28 (20%)	136 (24%)
11 or more months	73 (26%)	25 (17%)	134 (23%)
Total	277 (100%)	143 (100%)	575 (100%)

Table 2 and Figure 9 indicate the rates of MMR immunization by months enrolled and by plan. Overall MMR immunization rates are very low (7%, 14%, and 11%). However, for the HEDIS measures, only those children eligible for at least 11 months between their first and second birthdays are included. For this group, Table 2 shows that John Deere has the highest immunization rate at 44%, while Iowa Health Solutions has the lowest rate with only 21%. Although these rates are higher than those across all children regardless of enrollment period, the rates are still low.

Table 2. Rates of MMR immunization by months enrolled and plan

Number of months	Iowa Health Solutions	John Deere	Wellmark
1-4 months	1 (1%)	3 (6%)	2 (1%)
5-7 months	1 (2%)	1 (3%)	11 (8%)
8-10 months	3 (5%)	5 (18%)	18 (13%)
11 or more months	15 (21%)	11 (44%)	34 (25%)
Total	20 (7%)	20 (14%)	65 (11%)

Figure 9. Rates of MMR vaccination by number of months enrolled and plan



The low MMR immunization rates may be due, at least in part, to our inability to capture the administration of vaccines provided outside of the health plan (e.g., by a public health clinic). Anecdotal information indicates that the receipt of immunizations by *hawk-i* enrollees in public health clinics could be encouraged by some rural physicians who may not offer the vaccinations in their offices due to the perceived high cost of obtaining and maintaining the supply. Instead, they send children to public health offices for vaccination. Children may also come into a plan with evidence of vaccinations provided prior to entry into the program (i.e., prior to one year of age). These children may not receive another vaccination, and so evidence of the receipt of an MMR vaccination would not be present in the encounter data.

Behavioral and emotional health utilization

The number and percent of children with an outpatient behavioral or emotional health visit will serve as an indicator of access to mental health care for children enrolled in *hawk-i*. Although there is no guideline or reference point regarding the percent of children that need mental health services, we can conclude that plans with a higher percent of children with a visit provide better access than those with a lower percent, unless there are differences in the prevalence of behavioral and emotional health problems between the populations in the different plans. In general, the plans within *hawk-i* seem to have comparable rates for mental health services (see Table 3).

Table 3. Number and percent of children enrolled for at least 11 months with an outpatient mental health visit by age and gender

Age and gender	Iowa Health Solutions	John Deere	Wellmark
0-12 years of age			
Male	92 (6%)	48 (7%)	154 (4%)
Female	41 (3%)	19 (3%)	68 (2%)
13-18 years of age			
Male	53 (9%)	20 (12%)	72 (6%)
Female	38 (7%)	9 (5%)	69 (5%)

Boys of all ages with a mental health diagnosis are most likely to have been diagnosed with attention deficit-hyperactivity disorder (ADHD) (60% for boys age 0-12 years, 42% for boys age 13-18 years). The next most prevalent diagnoses were adjustment disorder and affective psychoses. These were equally likely in boys 13-18 years of age, while for boys 0-12 years of age a diagnosis of adjustment disorder was far more likely than one of affective psychosis. Girls from 0-12 years of age with a mental health diagnosis were most likely to be diagnosed with ADHD (26%). The second most prevalent diagnosis was adjustment reaction (30%). For girls 13-18 years of age, the most common diagnosis was adjustment reaction, while the second most common was affective psychosis. Table 4 shows the number and percent of children with the three most common diagnoses by age and gender.

Table 4. Number and percent of children diagnosed with the three most common mental health diagnoses by gender and age

Gender and age	ADHD	Adjustment reaction	Affective psychoses
Boys 0-12 years	175 (3%)	53 (1%)	9 (<1%)
Boys 13-18 years	61 (3%)	20 (1%)	20 (1%)
Girls 0-12 years	60 (1%)	53 (1%)	3 (<1%)
Girls 13-18 years	15 (<1%)	31 (1%)	30 (1%)

Summary of child and youth measures

Unlike Medicaid, the *hawk-i* program has children and youth as its only enrollee group. The health and utilization outcomes for this group are extremely important in assessing the quality of care provided. Most particularly, these data allow us to determine whether children and youth have equal access to services across plans. The rates that include children and youth eligible for 11 and 12 months provide the best information as to the effectiveness of the health plans in providing the appropriate services to children. While 100 percent utilization is the desired goal, factors outside the control of the health plans also affect whether a child receives a service at the appropriate time, making this goal unlikely.

From an overall perspective, children and youth in *hawk-i* are not utilizing preventive services at rates consistent with established AAP or AAPD guidelines. Of greatest concern are the rates of receipt of preventive medical visits—which are lower than those found for Medicaid managed care plans—and of preventive dental visits, especially for children in Iowa Health Solutions. The low MMR immunization rates are also of concern, but without the ability to determine if a child received an immunization at a public health clinic, it is difficult to determine if a problem exists.



hawk-i Outcomes of care for children and youth in *hawk-i*

This report presents the results of an ongoing evaluation of the *hawk-i* program. Using enrollment and health care encounter data for calendar year 2001, HEDIS (Health Plan Employer Data and Information Set) measures were calculated. The rates of preventive medical visits, preventive dental visits, behavioral health visits and MMR immunizations were calculated and compared across three health plans (John Deere, Iowa Health Solutions, and Wellmark Blue Cross/Blue Shield).

This research effort was sponsored by the Iowa Department of Human Services at the direction of the *hawk-i* Board of Directors and the Iowa Legislature. Data for the analyses were provided by MAXIMUS, the fiscal intermediary during fiscal year 2001. Data analysis and production of this report were completed by researchers at the University of Iowa Public Policy Center.

None of the results express any opinions of the Iowa Department of Human Services, the *hawk-i* program, the participating health plans, or the University of Iowa. This project was not sponsored or conducted by the individual health plans providing services to *hawk-i* enrollees. The conclusions are the independent products of university research and do not necessarily reflect the views of the funding agency.

