

**Using the School Meals Enrollment Form  
to Identify and Enroll Children  
in Medicaid and SCHIP:  
Will it Work in Kansas?**

**Report to Kansas Action for Children**

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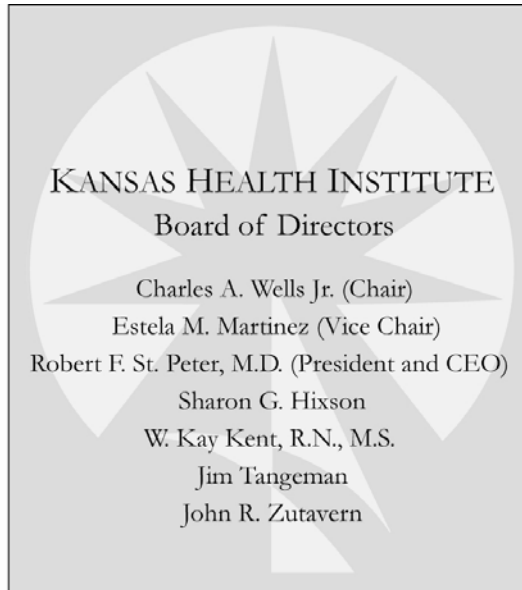
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The Kansas Health Institute is an independent, nonprofit health policy and research organization based in Topeka, Kansas.

Established in 1995 with a multi-year grant from the Kansas Health Foundation, the Kansas Health Institute conducts research and policy analysis on issues that affect the health of Kansans.

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## EXECUTIVE SUMMARY

Eligibility criteria for the school Child Nutrition Program and the Medicaid and HealthWave (Kansas' State Children's Health Insurance Program) programs overlap considerably. Consequently, computer matching algorithms can be used to identify children who are enrolled in the free and reduced price school meals program who might be eligible for public insurance programs but are not currently enrolled. States using this matching approach have instituted outreach programs to enroll the eligible children they have identified in public health insurance programs; the process is referred to as "facilitated enrollment."

The purpose of this project was to determine whether, in Kansas, the free and reduced price school meals program is an effective gateway for identifying and enrolling elementary school-aged children in public health insurance. To make this assessment, the Kansas Health Institute (KHI) attempted to match information provided by parents on their children enrolled in the school Child Nutrition Program with Medicaid and HealthWave enrollment files. The match was attempted using public-domain record linkage software. The match focused on only three fields in each of the two files — last name, first name, and date of birth. KHI believed that if this application could produce accurate matches and non-matches, it could easily be scaled up to a statewide effort.

KHI obtained a match rate of 85 percent (523 matches of 617 children). The rate rose to 94 percent (390 of 417) when KHI program staff attempted to match only those children whose parents reported them currently enrolled in Medicaid or HealthWave. KHI also identified that approximately 25 percent of children (157 of 617) who receive free and reduced price school meals are not currently enrolled in either Medicaid or HealthWave. Some of these children are covered by another source of health insurance, but others are likely uninsured.

Matching free and reduced price meals and public health insurance enrollment data as a pivotal step in a future facilitated enrollment process in Kansas is entirely feasible. A facilitated enrollment process could possibly reduce public health insurance program churning and would likely reduce the rate of uninsured children.



## BACKGROUND

With funding from the Sunflower Foundation, Kansas Action for Children entered into an agreement with the Kansas Health Institute, in April 2006, to “determine if the free and reduced price school meals program is an effective gateway for identifying and enrolling [elementary school-aged] children in public health insurance.” Several states have used computer matching algorithms to identify children enrolled in the free and reduced price school meals program who might be eligible for Medicaid and State Children’s Health Insurance Programs (SCHIP) but are not enrolled. This matching is made possible because there is considerable overlap among the financial eligibility criteria of the programs. Children are eligible for the free meals program if their family income is at or below 130 percent of poverty and for the reduced price meals program if their family income is between 130 and 185 percent of poverty. In Kansas, children over six years of age are eligible for Medicaid if their family income is below 100 percent of poverty and eligible for HealthWave (Kansas SCHIP) if their family income is below 200 percent of poverty. Because more eligible children are enrolled in the school meals program than in public health insurance programs, matching enrollment data between the two program types offers an opportunity to identify unenrolled children who may be eligible for public health insurance. States using this approach have instituted outreach programs to enroll the eligible children they have identified; the process is referred to as “facilitated enrollment.”

The first step in implementing a facilitated enrollment program in Kansas is to assess the feasibility of matching school meals program and Medicaid/HealthWave enrollment data. On behalf of Kansas Action for Children, KHI agreed to:

- Enter into necessary agreements with the Kansas Health Policy Authority to perform the proof of concept study.
- Review school-specific data provided by participating parents containing child-specific information derived from the free and reduced price school meals enrollment form and input these data into a secure database.
- Attempt to match child-specific data to Medicaid and HealthWave enrollment data to assess the feasibility of identifying children who might qualify for public health insurance but who were not enrolled during the study period.

- Provide a summary report identifying success, failure and challenges based upon the proof of concept study.

KHI executed a Data Use Agreement with the Kansas Health Policy Authority that provided direct access to state Medicaid and SCHIP data, subject to clear restrictions on permitted uses and disclosures of information. The form of the Data Use Agreement was that of a Business Associate Agreement compliant with the Health Insurance Portability and Accountability Act (1996). Such an arrangement benefited KHI by enabling project staff to make direct, precise, reproducible queries of the database. It freed the Authority of the need to fulfill *ad hoc* user requests, but the Authority retained the right to audit all activities and to require KHI to account for all uses and disclosures of information.

## **DATA AND METHODS**

### **DATA ACQUISITION**

To acquire school meals program enrollment data for matching, it was first necessary to obtain permission from parents of children who are enrolled in the programs. This proceeded in several stages. In 2005, Kansas had 303 school districts. These districts operated 1,397 buildings, 746 of which were elementary schools. Approximately 214,000 children were enrolled in elementary school and about 92,000 of them (43 percent) participated in the free and reduced price school meals program.

In the spring of 2005, the Director for Child Nutrition and Wellness at the Kansas State Department of Education wrote to superintendents and food service directors in every school district, inviting them to participate in this project. Participation entailed contacting parents of children enrolled in the school meals program in their districts during the 2004–2005 school year, and providing them with a one-page questionnaire and a return envelope addressed to KHI researchers. Thirty districts answered affirmatively.

Sharing information among government programs is a matter of extreme sensitivity and is protected by federal law — for schools, the Federal Educational Rights and Privacy Act



(FERPA); for health programs, the Health Insurance Portability and Accountability Act (HIPAA). A federal rule, entered into the Federal Register on January 11, 2001, permits the exchange of children's free and reduced price meals or free milk eligibility information to state Medicaid and SCHIP programs but establishes requirements for their disclosure. For this study, KHI sought explicit authorization directly from parents to collect and combine data on their children instead of making use of the federal rule. No school records were shared.

Research that uses a questionnaire is subject to policies and procedures for the protection of human subjects and must be approved by an Institutional Review Board (IRB). The project and its survey instrument (questionnaire) was submitted to and approved by the Kansas Department of Health and Environment IRB in March 2006. Parents who agreed to participate in the project identified their children to KHI using the questionnaire sent to them by their child's school district. KHI was not provided the list of names of families contacted by district staff. School districts were reimbursed for expenses of copying and mailing the questionnaire to parents of children participating in the free and reduced price school meals program.

Some secondary information is available about the demographic characteristics of the state's school districts, including gender, race/ethnicity, economic disadvantage, English proficiency and disabilities. These data were used to determine whether the 30 participating school districts were representative of the state as a whole. In general, they were found not to be representative. The participating school districts tended to be clustered in the eastern and central sections of the state, but did not include some of the largest urban centers in this region. In comparison to the state as a whole, they are characterized by having more families who are White and fewer Hispanic, and had fewer immigrant families (except for two districts represented in the sample that had high numbers of immigrants). Other measures, however, including economic disadvantage and participation in the free and reduced price school meals program, tracked more closely with state averages. Despite these findings, KHI did not attempt to contact school districts that had previously declined to participate. Contacting them a second time would have placed a burden on the Kansas State Department of Education staff and could possibly have delayed the data gathering phase of the project beyond the end of the 2005–2006 school year.

By the spring of 2006, 13 of the 30 school districts remained willing to participate in the study. They sent out a total of 4,636 surveys to parents and asked for responses by May 15. Overall, 449 families returned completed surveys — a response rate of 9.7 percent. No follow-up requests were made. School district response rates varied from a low of three percent (one returned out of 32) to a high of 19 percent (24 returned out of 128). The most populous school district, which sent out 2,092 surveys, had a response rate of eight percent (176 returned). The surveys did not request families to supply information that might have enabled KHI to characterize respondents versus non-respondents.

Parents were asked to provide the name, birth date and public health insurance status of each child ten years old or younger. Many provided information on older children as well. The information on older children was coded but was not used for matching to Medicaid and SCHIP enrollment files. Usable data included 617 out of 883 children identified on survey responses.

## **DATA MATCHING**

Using the Kansas Health Policy Authority data system, KHI project staff produced an extract of Medicaid and SCHIP eligibility records describing any person born after June 1, 1995, who had *ever been enrolled* in either program. This approach maximized the opportunity of a match to the insurance file, which is characterized by significant churning of enrollees in and out of the program. The extract contained the minimum data necessary to attempt a match to the school survey responses and to report the current enrollment status of each beneficiary. The query was performed in September 2006, sufficiently late to capture most retroactive eligibility back to May.

A combined probabilistic/deterministic record linkage technique was used to match the insurance and parent-provided survey data. This technique is available through public-domain software — “Link King” — originally developed for the federal Substance Abuse and Mental Health Services Administration (SAMHSA) by the State of Washington’s Department of Alcohol and Substance Abuse and a private firm, MedStat. The software is easy to run but it does not readily allow detailed customization of matching parameters. KHI believed that if this

application could produce accurate matches and non-matches, it could be easily scaled up to a statewide effort.

Two other approaches were held in reserve. Extensive SAS-language source code for probabilistic record linkage previously published by SAMHSA was available to KHI. KHI staff was prepared to customize it, if necessary, to improve results for this application. Such an approach would have had high front-end costs but would have produced scalable software. The other approach was “brute-force matching” — a process of attrition in which highly specific rules for matching are incrementally relaxed until the analyst determines that further loosening of the rules to obtain additional matches would not be valid. This approach is labor-intensive and is not scalable. It must be repeated every time.

Fortunately, using Link-King to match three fields between the two files — last name, first name and date of birth — KHI obtained a high match rate of 85 percent (523 matches of 617 children). Adding three more fields — telephone number, street address and zip code — added only seven matches. Furthermore, when KHI program staff attempted to match only those children whose parents reported them currently enrolled in Medicaid or SCHIP, the rate rose to 94 percent (390 of 417). Clearly, no other matching techniques would be needed for this proof of concept exercise.

All of the matches and non-matches produced by Link-King were visually scanned for false positives and false negatives. These data also were submitted to limited brute force techniques to expose possible errors. These investigations produced only trivial findings. All of the statistics reported above are final results.

A number of apparent anomalies were discovered in the survey-reported data. For example, individual families had younger children without insurance, while older siblings were insured. Because the state’s eligibility requirements favor younger children, this pattern was not expected. An explanation for it may be that some parents do not enroll their children until they require significant medical care. (This hypothesis could be tested using utilization data, but was outside the scope of the current project.)

## FINDINGS

The matching algorithm described above was used to identify children in the free and reduced price school meals program who had *ever been enrolled* in Kansas' public health insurance programs. Table 1 presents these results. Matching free and reduced price meals and public health insurance enrollment data in Kansas is entirely feasible.

**Table 1: Children in the Free and Reduced Price School Meals Program can be Matched to Kansas Medicare and HealthWave Using Enrollment Data (n=617)**

Match	Percent Matched
Children in the survey who matched current or historical Medicaid/HealthWave enrollment files	84.8
Children whose parents said they were enrolled in either Medicaid or HealthWave who matched current or historical Medicaid/HealthWave enrollment files	93.5
Children whose parents said they were <i>not</i> currently enrolled in either Medicaid or HealthWave who <i>did</i> match current or historical Medicaid/HealthWave enrollment files	66.5

It is informative to examine the portion of those children who have ever been enrolled in Medicaid/HealthWave that were enrolled for some portion of the 2005–2006 school year. Of the 523 children who could be identified in both the survey and the insurance files (i.e., had ever been enrolled in a Kansas public health insurance program), 12 percent (63 children) were not enrolled in Medicaid or SCHIP for even one day of the school year (see Table 2). Eighty-one percent (422 children) were enrolled for at least one day of May 2006 — the month the survey was taken. The remaining seven percent (38 children) were enrolled for some other portion of the school year. Seventy-two percent (377) of children ever enrolled in Medicaid or HealthWave were enrolled for the entire ten months of the 2005–2006 school year.

These findings suggest that as many as 157 children (63 confirmed not-enrolled children plus 94 non-matched children) might be eligible for public health insurance on the basis of their participation in the free and reduced price school meals program. Were these findings generalizable to the entire 92,000 population of elementary school children receiving free and reduced price meals — which they may not be — the number of children targeted for facilitated enrollment outreach would be approximately 23,400.

**Table 2: School Year 2005–2006 Medicaid/HealthWave Enrollment Patterns of Children Who Were Ever Enrolled in Medicaid/HealthWave (n=523)**

<b>Enrollment Status</b>	<b>Percent</b>
Not enrolled during school year	12.0
Enrolled entire 10 months of the school year	72.1
Enrolled for at least one day during May 2006	80.6

## **DISCUSSION**

It is beyond the scope of this project to estimate how many of the approximately 23,400 elementary school students in the free and reduced price school meals program might qualify for Medicaid or HealthWave and would actually enroll in one of these two programs as a result of outreach activities. Nevertheless, the characteristics of different groups within the estimate of those who qualify suggest a differential willingness to take up the offer of public health insurance. Using the distribution from the sample of 157 potentially eligible children described above, the 23,400 potentially eligible children would be divided between a group that had had Medicaid or HealthWave at some time in the past, but do not now (40 percent of the total) and a group that has never been enrolled in Medicaid in Kansas or HealthWave (60 percent).

The group that has previously been enrolled in Medicaid or HealthWave may be further divided between a group that has gained insurance coverage from another source, likely employer-based coverage of a parent or guardian, and a group that has fallen prey to the phenomenon known as “churning,” which occurs when individuals lose and regain coverage in a short period of time. Churning has several causes, including public insurance renewal procedures and fluctuating family conditions. The parents of those children with an alternative source of coverage may not take up the offer of public insurance. But some parents may decide to switch coverage, because the cost of HealthWave coverage may be less expensive than the cost of employer-based coverage. Facilitated enrollment could make a contribution to reducing churning by serving as an affirmative reminder to parents of the need to re-enroll their children. (Some parents may be confused about their children’s insurance status. In our sample, 66.5 percent of children whose parents said they were not enrolled in public health insurance actually were. Conversely, 6.5 percent of children in the sample whose parents said they were currently enrolled in public health insurance were not.)

The group of children that has never been enrolled in Medicaid in Kansas or HealthWave can also be subdivided. Here, too, a group of children receives private coverage from another source; the remainder is uninsured. The parents of children in the uninsured group have not previously taken up the opportunity to enroll in public health insurance because they are unaware of its existence, do not know how to apply, believe they cannot afford the premiums (for HealthWave), do not perceive a need for coverage, or some other reason. Outreach efforts through a facilitated enrollment process will certainly increase enrollment among this group, but they will likely fall short of enrolling the entire sub-population.

The evidentiary requirements of Child Nutrition Program enrollment are less rigorous than those of Medicaid and HealthWave. Although the parent applying for Child Nutrition Program benefits certifies that the financial information they report on the application form is correct and gives school officials permission to verify the information, there is less direct oversight compared to Medicaid and HealthWave. As a result, some children may be enrolled erroneously in the free and reduced price school meals program. These children, assuming their family income is greater than 200 percent of poverty, would not qualify for HealthWave.

The process Kansas Action for Children and its partners devise for implementing facilitated enrollment would be greatly aided by modifications to the annual “application for child nutrition program benefits” form. The Kansas State Department of Education (KSDE) posts an application template on its Web site to be used by school districts. Some school districts make minor modifications to the form. In years prior to the 2006–2007 school year, the KSDE form had a portion titled “Part 5: Optional Benefits.” (See Appendix A.) The text for this section read:

*You do not have to complete this part to get Child Nutrition Program benefits. I give permission for school officials to use my child(ren)’s eligibility for reduced price or free Child Nutrition Program benefits to determine eligibility for the programs I have checked below. I understand that I am releasing information that will reveal that I am applying for Child Nutrition Program benefits.*

There were four blanks under this statement each accompanied by a check box.

Some school districts used the KSDE form without modification. Others changed the forms to specify the programs with which Child Nutrition Program data would be shared. Examples of programs from a limited examination of school district Web sites include

bussing, free textbooks, summer school, instrument rental, and all-day Kindergarten. One school district we examined included HealthWave as an optional benefit (See Appendix B.) If all school districts asked parents for permission to share Child Nutrition Program data with Medicaid and HealthWave, a pathway would be established for matching data between the programs as well as for subsequent outreach to parents of unenrolled children. Unfortunately, the KSDE template for school year 2006–2007 eliminates the “Optional Benefits” section of the form. (See Appendix C.) School districts that had previously modified the form appear to continue to use the “Optional Benefits” section, but others are using the revised KSDE template without modification.





## Appendix A



## Appendix B



## Appendix C

