Integration of Kansas WIC Clinics with Childhood Immunization Activities

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The Immunize Kansas Kids project is a unique partnership among the Kansas Department of Health and Environment, the Kansas Health Institute and dozens of stakeholder organizations. The goal is simple: to protect every Kansas child from vaccine-preventable diseases.

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EXECUTIVE SUMMARY

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is a federally sponsored grant program that provides nutrition education, vouchers for specific food items and referrals for needed health care services. The WIC program serves low-income pregnant, postpartum and breastfeeding women, and infants and children up to age 5 who are at nutritional risk. State and territorial agencies administer the WIC program within their jurisdictions. Nationally, the WIC program serves slightly more than half (53 percent) of all infants born in the United States (USDA, 2013). Mothers and children who participate in the WIC program visit their local WIC clinic every few months to receive health assessments and nutrition education and to pick up food vouchers. WIC clinics are frequently located in the same building as, or within close proximity to, local health departments or community health care services.

Because of the large number of young children served by the WIC program, the program's alignment with the overall goal of improving the health of young children, and the fact that immunization rates have historically been lower among low-income children, WIC clinics have long been viewed by public health professionals, researchers and policymakers as offering opportunities to support efforts to improve childhood immunization coverage rates. After encouraging results from early demonstration projects, President Clinton in December 2000 directed the U.S. Department of Agriculture (USDA) and U.S. Department of Health and Human Services (HHS) to devise and implement a plan to include immunization assessment and referral as a routine component of the WIC certification process. In August 2001, the USDA required all state and local WIC agencies to develop plans to coordinate with immunization screening providers so that children in the WIC program would be screened and referred for immunization if found to be unimmunized or underimmunized. The federal mandate established a minimum requirement of immunization assessment and referral at all WIC clinic locations. Some WIC clinics have gone beyond the minimum requirements and implemented additional procedures such as reminders and follow-up notices, incentives or coordination or co-location with immunization services to try to improve immunization rates among the children that they serve.

The purpose of this report, compiled by the Kansas Health Institute (KHI) at the request of the Immunize Kansas Kids (IKK) coalition, is to provide information about experiences, outcomes and current practices linking WIC clinic sites with immunization activities, both nationally and in Kansas. Data and information included in this report have been gathered by KHI staff through searches of peer-reviewed literature, Internet resources and structured key informant interviews with members of the administrative teams of the Kansas WIC program and the Kansas Immunization Program, both part of the Kansas Department of Health and Environment (KDHE).

FINDINGS FROM THE LITERATURE

Over the last two decades, a small number of published studies and reports have documented the outcomes of various approaches to strengthening the involvement of WIC clinics in early childhood immunization efforts. In addition to the basic immunization screening and referral processes, a number of other strategies have been employed and tested in the WIC setting. Those include offering small gifts or incentives to parents whose children are current on immunizations, requiring that parents of children who are underimmunized return to the clinic more frequently to pick up food vouchers until immunizations are brought up to date (a practice referred to in the literature as 'voucher incentives'), providing immunization reminders and follow-up calls from the WIC clinic, coordinating the schedules of WIC visits with operating hours of a nearby immunization clinic, offering immunizations on-site in the WIC clinic and physically escorting children who are assessed as underimmunized to a nearby immunization clinic where they receive expedited service. Of these approaches, the use of voucher incentives has the strongest evidence of effectiveness in increasing immunization rates. Generally, immunization screening in WIC clinics has been well-received by mothers and caregivers of WIC children and has not resulted in increased rates of program dropout.

IMMUNIZATION ACTIVITIES IN KANSAS WIC CLINICS

In Kansas, the WIC program is operated by a central administrative agency within KDHE and 118 local clinic sites spread throughout the state. The Kansas WIC program serves approximately 75,000 women, infants and children each month. Kansas policy requires that all WIC sites assess children's immunization status at each annual and semiannual certification visit

and refer children who are deemed to be underimmunized to the child's primary care provider or the local public health immunization clinic. The assessment and referral activities are to be documented in the Kansas WIC program's computerized information system, KWIC. Beyond those basic requirements, practices are variable among Kansas WIC sites, with some offering additional incentives for immunization, some using voucher incentives and some providing varied levels of coordination and collaboration between local WIC and immunization clinics.

Since 2003, the Kansas Immunization Program of the Kansas Department of Health and Environment has offered noncompetitive grants to a small number of specifically targeted WIC clinics for the purpose of strengthening collaboration between local WIC and immunization programs. The most recent call for proposals offers a total of $365,000 for state fiscal year 2014 (July 1, 2013, through June 30, 2014), drawn from a combination of state and federal funding, to eight Kansas counties for WIC–immunization collaboration projects. Funded programs are required to submit semiannual reports of activities to the Kansas Immunization Program, but no further assessment of the impact of the funded projects on childhood immunization rates has been conducted to date.

CONCLUSIONS AND RECOMMENDATIONS

Under federal mandate, all WIC clinic sites are required to assess the immunization status of the children they serve and refer to either the child's primary care physician or an immunization clinic when indicated. Policies of the Kansas WIC program comply with the federal requirement, and all Kansas WIC clinics currently conduct immunization assessments and referral. During 2012, Kansas WIC clinics made more than 7,000 immunization referrals and provided nearly 1,700 shots to their young clients in the WIC clinic setting. In addition to screening and referral, many Kansas WIC sites have implemented other procedures to encourage complete and up-to-date immunization, but these decisions have been made at the local level and are not uniform across the state.

Nationally, results from a limited number of published studies provide inconsistent evidence of the effectiveness of immunization screening and referral in WIC clinics as a strategy for improving immunization rates among WIC children. Evidence for screening and referral

accompanied by parental gifts or reminder and follow-up systems is also inconclusive. The strongest evidence of improvement in immunization rates has been observed in settings where the use of voucher incentives has been implemented in addition to the basic screening and referral process.

To date, no formal study or assessment of the impact of Kansas WIC clinic activities on childhood immunization rates has been conducted. Similarly, no formal assessment has been conducted of the impact of targeted grants intended to encourage WIC–immunization collaboration. The existing variability of immunization practices currently in place in WIC clinics, and the ready availability of rich data sources through both the KWIC and KsWebIZ systems, offer an opportunity for further study and enhanced understanding of how best to continue collaborative efforts toward achieving the goal of increasing immunization rates among young children. With a modest investment of effort and resources in study and analysis, administrators of the Kansas WIC and immunization programs could gain important knowledge and understanding of best practices and intervention strategies, which could then be used to more effectively and efficiently shape future efforts.

It is also important for immunization advocates to remember that although the WIC clinics offer an attractive venue for reaching large numbers of low-income children, the primary goal of the WIC program is to improve the nutritional status of low-income mothers, infants and children. Efforts to superimpose additional early childhood objectives and practices on WIC clinic operations must be designed with careful consideration of the potential for competing objectives, a realistic assessment of the resources needed to successfully implement those objectives and full funding support from sources external to the WIC program.

BACKGROUND

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is a federally sponsored grant program that provides nutrition education, vouchers for specific food items and referrals. The program's primary objective is to ensure adequate nutritional status of low-income women and children during critical periods of growth and development. WIC serves low-income pregnant, postpartum and breastfeeding women, and infants and children up to age 5 who are at nutritional risk. WIC funding is authorized annually by Congress, and no match of state funds is required. Federal funds are allocated by the U.S. Department of Agriculture's (USDA) Food and Nutrition Service to designated WIC agencies in each state, 34 Indian tribal organizations and six U.S. territories. These 90 state/territorial agencies administer the WIC program within their jurisdictions.

To be eligible for WIC services and benefits, women and young children must meet state residency requirements, be determined to be at "nutrition risk" by a health professional or trained health official and have a household income at or below 185 percent of federal poverty level (currently about $42,000 for a family of four). Nationally, the WIC program serves 53 percent of all infants born in the United States (USDA, 2013).

Mothers and children who participate in the WIC program visit their local WIC clinic every few months to receive nutrition education services and pick up food vouchers. More comprehensive health status evaluations are conducted every six months during certification visits. Women and children who are considered to be at high risk for adverse nutritional outcomes may be required to visit their WIC clinics more frequently to receive food vouchers. WIC clinics are frequently located in the same building or close to local health departments or community health care services.

Because of the large number of young children who are served by the WIC program and the program's alignment with the overall goal of improving the health of young children, WIC clinics have long been viewed by public health professionals, researchers and policymakers as offering potential opportunity to encourage timely immunization and improve immunization coverage rates among low-income children. Efforts to strengthen WIC–immunization linkages

were first motivated by the discovery that many of the preschool children who contracted measles during the 1989–1991 national outbreak were enrolled in WIC (Shefer 2001). Additionally, available data indicated that vaccination coverage rates among WIC participants were lower than those of higher-income children (Birkhead 1996). In the early 1990s, USDA and the U.S. Centers for Disease Control and Prevention (CDC) began to identify interventions that might improve vaccination coverage among WIC participants. Demonstration projects linking vaccination services with WIC clinic sites showed significant improvements in vaccination coverage (Birkhead 1995, Hutchins 1999).

In 1996, support for WIC–immunization linkages was strengthened when Congress directed CDC to develop and implement a strategy to improve vaccination coverage among children served by WIC. As a result, state immunization programs receiving funding under the Section 317 vaccine program[1] were required to allocate a portion of that funding for vaccination activities conducted by the state's WIC program (Hoekstra, 1998). In 1998, WIC participation questions were added to the National Immunization Survey (conducted annually by CDC) to allow ongoing monitoring of vaccination rates among children in WIC. Spurred on by encouraging results from early demonstration projects and continued low vaccination coverage rates among WIC-participating children, President Clinton in December 2000 directed USDA and the Department of Health and Human Services (HHS) to devise and implement a plan to include immunization assessment and referral as a routine component of the WIC certification process.

In August 2001, the USDA standardized minimum procedures for immunization screening and referral in WIC state and local agencies (Appendix A-1). This minimum USDA screening and referral policy (Figure 1, page 3) defined WIC's role as enhancing, but not substituting for, existing funded immunization activities and initiatives. WIC agencies were directed to develop plans to coordinate with providers of immunization screenings so that children in the WIC program would be screened and referred for immunization using documented immunization

[1] The Section 317 program is a discretionary federal grant program to all states, six cities, territories and protectorates which provides vaccines to underinsured children and adolescents not served by the Vaccines for Children (VFC) program, and as funding permits to uninsured and underinsured adults. The majority of Section 317 program funds are dedicated to routine childhood programs. The 317 program also provides immunization infrastructure. Source: *www.cdc.gov/vaccines/programs/vfc/downloads/grant-317.pdf*

histories. WIC clinics were *not* required to conduct full assessments of a child's immunization status; the stated purpose of the minimum screening and referral process was to identify children younger than 2 who might be *at risk* for underimmunization and to refer them to appropriate care. The requirement for screening could be satisfied by counting the number of doses of DTaP (diphtheria, tetanus and acellular pertussis) vaccine that a child had received and comparing that number to a table based on the child's age. While WIC clinics with the capacity to perform more comprehensive immunization screening were not prohibited from doing so, the memorandum made clear that the purchase of vaccines and delivery of immunizations would not be allowable costs under the WIC program. USDA funding support for immunization-related activities carried out by WIC programs would not extend beyond the basic assessment and referral activities.

Figure 1. **Overview of Minimum Screening and Referral Protocol**

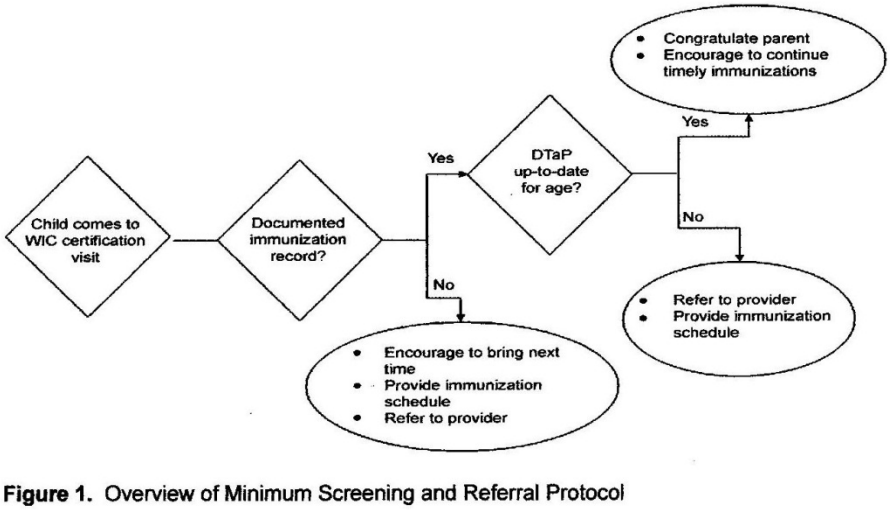


Figure 1. Overview of Minimum Screening and Referral Protocol

Source: National WIC–Immunization Workgroup, *Implementing the New WIC Policy for Immunization Screening and Referral*, October 2002.

In addition to the mandatory immunization assessment and referral activities, some WIC sites, both across the nation and in Kansas, have implemented additional policies and procedures to encourage complete and current immunization of their young WIC clients. Strategies include small gifts or incentives for parents of children whose immunizations are up-to-date, reminder

and follow-up systems, and enhanced coordination of immunization and WIC clinic scheduling and/or staffing to make it easier for children who need immunizations to obtain them at their visit to the WIC clinic. In some locations, an immunization nurse has been incorporated into the WIC clinic staffing and is available to provide immunizations to children as needed. Voucher incentives are another frequently used tactic for encouraging immunization. WIC agencies routinely use voucher incentives, a modification of the usual food voucher distribution schedule to require more frequent clinic visits, to more closely monitor high-risk clients. While voucher incentives may be imposed when children are found to be behind on immunizations, federal policy specifically prohibits denial or withholding of food vouchers because of incomplete immunization status.

PURPOSE AND METHODS

The purpose of this report, compiled by the Kansas Health Institute (KHI) at the request of the Immunize Kansas Kids (IKK) coalition, is to provide information about experiences and current practices linking WIC clinic sites with immunization activities, both nationally and in Kansas. Data and information included in this report have been gathered by KHI staff through searches of published peer-reviewed literature, Internet resources and structured key informant interviews with members of the administrative teams of the Kansas WIC program and the Kansas Immunization Program, both within the Kansas Department of Health and Environment (KDHE).

FINDINGS FROM THE PEER-REVIEWED LITERATURE

Since the initial WIC–immunization demonstration projects in the early 1990s, a small number of published studies have evaluated the impact of such coordination efforts on immunization rates. Immunization-related interventions studied range from performing the minimum assessment at semiannual WIC certification visits with passive referrals for children who are behind on immunizations to more active models such as providing parental incentives for keeping a child's immunizations current, requiring more frequent WIC clinic visits to obtain food vouchers until a child's immunizations are current, offering immunization reminders and follow-up, coordinating schedules of WIC and immunization clinics, physically escorting

children who are not up-to-date to the immunization clinic and co-locating an immunization nurse within the WIC site.

IMPLEMENTATION OF IMMUNIZATION ACTIVITIES IN WIC PROGRAMS

Since the USDA policy change in 2001, all WIC sites have been required to conduct, at a minimum, immunization assessment and referrals at WIC certification visits. Early studies examined the extent of implementation. One study reporting on immunization activities in WIC settings between 1996 and 2004 found that by 2004, 94 percent of WIC programs had implemented screening and referral processes. In addition to the mandatory screening and referral, 35 percent of WIC programs reported the use of voucher incentives and 78 percent reported coordination of WIC and immunization services by sharing data or other resources or coordinating clinic scheduling in 2004 (George 2007).

MATERNAL PERCEPTIONS OF IMMUNIZATION ASSESSMENT AT WIC SITES

Research findings have been reassuring that the potential negative impacts (client dropout from the WIC program or failure to appear at scheduled WIC appointments if the child is not up to date with immunizations) of including immunization screening and referral activities in WIC clinic responsibilities are minimal. Studies have found that, overall, the integration of immunization screening activities into WIC program operations appears to have been received positively by WIC clients. A number of studies evaluating the impact of immunization assessment/referrals and voucher incentives have reported that the WIC programs did not experience increased rates of dropout as immunization activities were implemented (Birkhead 1995, Hutchins 1999, Shefer 2002). In Milwaukee, researchers conducted focus groups with mothers receiving WIC services and asked mothers' opinions about immunization activities in the WIC setting. Mothers expressed positive attitudes toward the linkage of WIC and immunization activities and considered opportunities to obtain immunizations and WIC services at the same time and place to be very convenient. They suggested telephone reminders and education as the best ways to encourage mothers to get their children vaccinated on time. When asked their opinions about requiring more frequent visits to the WIC center if the child was underimmunized, the mothers had mixed feelings, but some viewed the strategy as potentially effective in improving immunization rates (Shefer, 1998).

IMPACT ON IMMUNIZATION RATES AMONG WIC CHILDREN

A number of studies have examined the relationships between various intervention strategies in the WIC clinic setting and improvements in immunization coverage rates of children enrolled at WIC clinic sites.

Assessment and Referral Only

In studies of WIC sites where only immunization assessment and referral have been implemented, observed improvements in immunization rates have been inconsistent. A study of 20 WIC centers in the Los Angeles area, where baseline immunization rates among WIC children were relatively high (77 percent fully vaccinated by 24 months, 4:3:1:3:3 series[2]), compared the impact of immunization assessment and referral at varied frequencies (three intervention groups) with a control group of children who were assessed only at their semiannual WIC visit with no referrals. The authors found that immunization coverage rates improved over baseline levels in all groups, although no differences were observed between the intervention and control groups (Ashkar, 2003). The investigators concluded that assessment and referral in their urban population with high baseline immunization coverage was not effective in increasing immunization rates. In another study of four Colorado WIC sites where baseline immunization rates ranged between 64 and 74 percent, rates improved by an average of 12 percent after implementation of assessment and referral activities (Ghosh, 2007). Hoekstra et al (1998) examined immunization coverage rates at 19 Chicago WIC sites in 1996–97 and found no improvements in coverage in those locations where only assessment and referral were conducted.

Assessment and Referral, Plus Additional Interventions

In many WIC settings, additional intervention strategies have been tested and implemented in combination with the minimally required immunization assessment and referral process. The most frequently employed tactic is the use of voucher incentives. With this strategy, mothers whose children are behind on immunizations are required to return to the WIC clinic more

[2] 4:3:1:3:3 refers to 4 or more doses of DTP (diphtheria, tetanus and pertussis) or DT (diphtheria and pertussis), 3 or more doses of poliovirus vaccine, 1 or more doses measles containing vaccine, 3 or more doses Haemophilus influenza type B, and 3 or more doses Hepatitis B.

frequently (monthly, rather than every two to three months) to obtain their WIC food vouchers until their children's immunizations are caught up. Where voucher incentive programs have been implemented, improvements in immunization rates are more pronounced. In Chicago, Hoekstra et al (1998) found that immunization rates increased significantly, from 56 percent to 89 percent, at WIC sites that employed voucher incentives compared to no change at sites performing only assessment and referral. In Milwaukee, researchers found that provider-validated up-to-date immunization rates were significantly higher in a group of clinics using voucher incentives than in those using only assessment and referral (Shefer 2002).

Other WIC sites have tried offering small gifts or incentives to mothers when a child's immunization status is found to not be current, coordinating schedules of WIC and immunization clinic services so that immunizations are readily available on the day of the WIC visit, escorting children needing immunization to a nearby pediatric clinic to obtain their shots or physically locating an immunization nurse within the WIC clinic. To date, limited evidence exists to support linkages between parental gifts or incentives and improved rates of childhood immunization in the general community setting, but few studies have looked at their use in the WIC setting (Briss, 2000; Community Preventive Services Task Force, 2011; George 2007). Although strong evidence exists to support the effectiveness of reminder/recall interventions in the community setting (Briss, 2000), a study evaluating their use in addition to assessment and referral in a WIC setting found no improvements in immunization coverage (Shefer, 2002).

A 1991 study of WIC sites in New York City compared measles immunization rates among children at WIC clinics that conducted immunization assessment and passive referral to rates at WIC sites where children behind on immunizations were escorted to a nearby pediatric clinic for expedited "express lane" immunization or where voucher incentives were employed in addition to the assessment/referral process. The investigators found that children at sites employing voucher incentive were nearly three times as likely, and children at escort sites more than five times as likely, to be vaccinated as children seen at the passive assessment/referral sites (Birkhead,1995).

In 2000, the CDC's Task Force on Preventive Services issued a comprehensive review of evidence regarding interventions to improve vaccination rates among children, adolescents and adults (Briss et al, 2000). Included in the review was a section focused specifically on immunization programs in the WIC setting. The authors found that existing evidence was sufficient to conclude that interventions in WIC settings are effective in improving vaccination coverage, but they did not differentiate between the types of interventions employed. Findings from peer-reviewed studies suggest that assessment and referral alone may have small, inconsistent effectiveness at increasing immunization coverage rates, but the impact on immunization rates increases significantly when assessment and referral are paired with voucher incentives or strategies that make it easier for caregivers to access immunization services.

WIC–IMMUNIZATION PROGRAM LINKAGES IN KANSAS

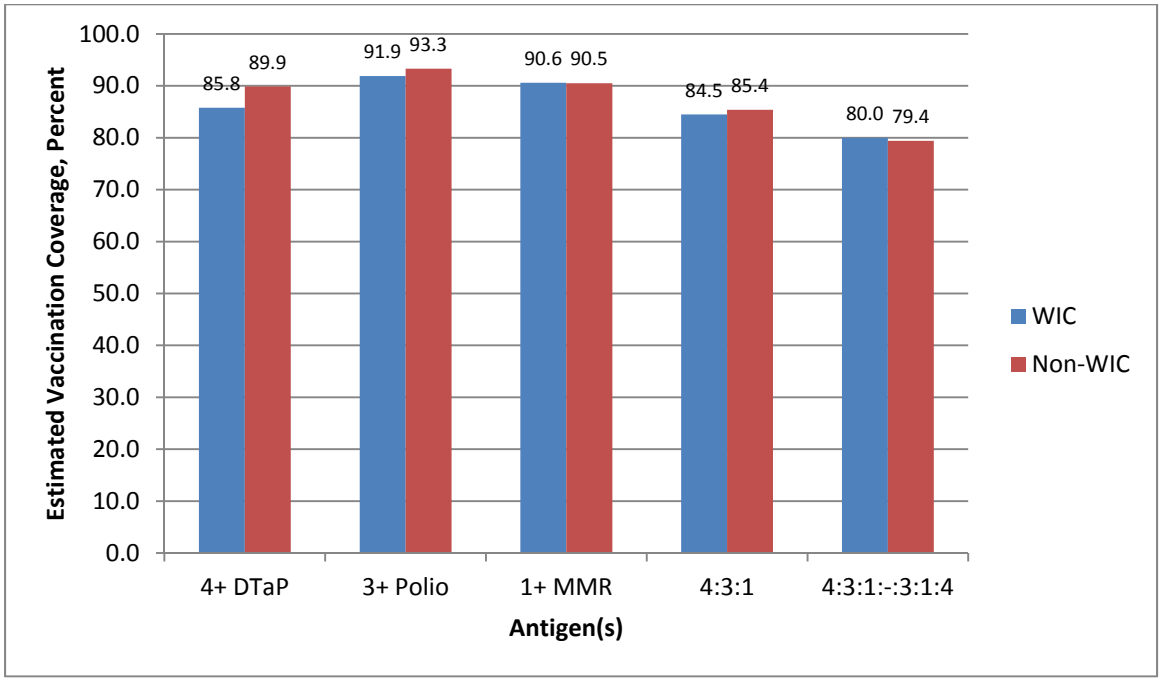
KANSAS WIC CLINICS

In Kansas, the WIC program operates at 118 clinics throughout the state. The majority of WIC clinics are co-located with local health departments. A small number are located at schools, churches or other community settings. Clinics must be staffed by a "competent professional authority," which can be a nurse or dietitian. A small number of clinics do not have a nurse on staff. In other clinics, the same individual serves as the WIC staff professional and the immunization nurse for the health department. About half of all infants born in Kansas each year are served by the WIC program. The annual number of child visits to Kansas WIC clinic sites varies from fewer than 20 to more than 7,500 per clinic.

IMMUNIZATION COVERAGE AMONG WIC CHILDREN IN KANSAS

Each year, the CDC conducts the National Immunization Survey to assess immunization coverage rates among children 19 to 35 months of age. Since 1998, survey participants have been asked about WIC participation, and the CDC has tabulated and published state-level immunization coverage rates separately for children who participated in the WIC program and those who did not. In 2011, the most recent year for which data are available, differences in immunization coverage rates between WIC and non-WIC children in Kansas were small, and none were statistically significant (Figure 2).

Figure 2. **Estimated Vaccination Coverage Among Kansas Children 19–35 Months of Age, 2011**



Source: Data from CDC, National Immunization Survey.
Notes:
4:3:1 = 4 or more doses DTaP, 3 or more doses Polio, 1 or more doses MMR
4:3:1:-:3:1:4 = 4:3:1 plus 3 or more doses HepB, 1 or more doses Varicella, and 4 or more doses PCV. Hib is excluded.

IMMUNIZATION POLICIES AND PRACTICES IN KANSAS

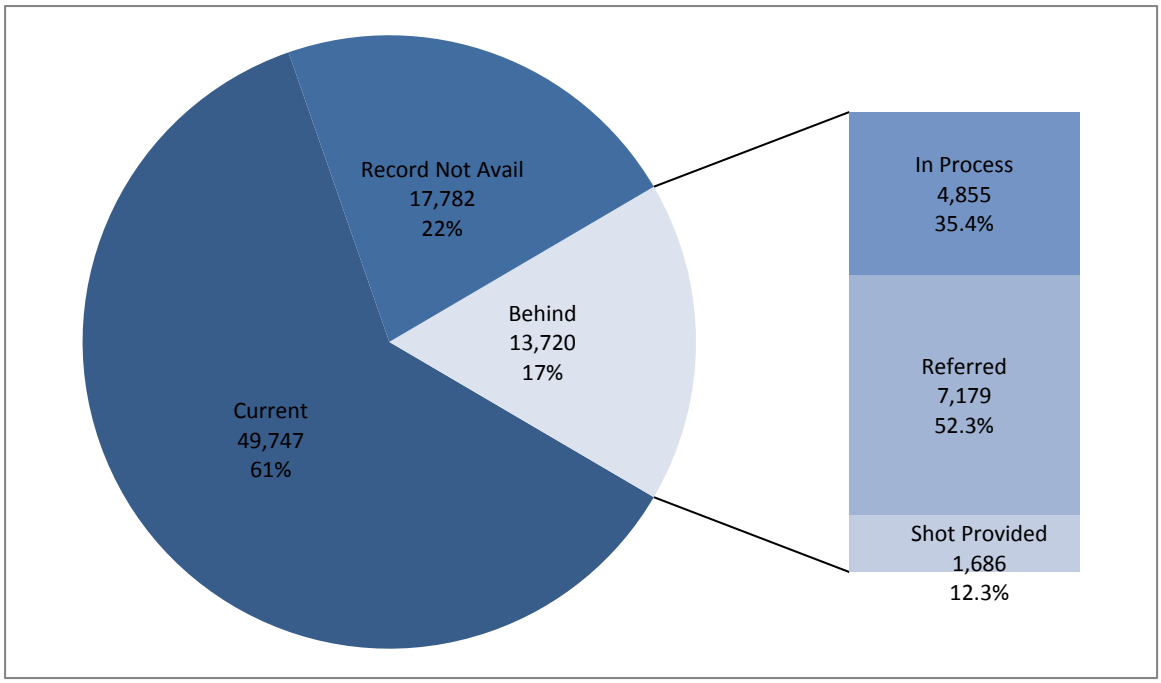
Under standard protocols, children receiving WIC services are assessed in the WIC clinic about every six months. At the time of the clinic visit, household income is reviewed to verify continued eligibility for services and the child undergoes a brief health assessment that includes height and weight measurement, and a blood hemoglobin level if indicated by a periodicity schedule. Immunization assessments are also conducted during these visits. Kansas WIC policy (Appendix A-2) stipulates that all infants and children that WIC serves will be screened for immunization status at each annual certification and mid-certification appointment. Families receiving WIC services typically come into the WIC clinic once every three months to pick up their food vouchers. Scheduling of voucher pickup is coordinated with assessment appointments in some WIC sites.

To complete the immunization assessment, WIC staff members are required to review each child's documented immunization history via a paper record or through KSWebIZ, the Kansas immunization registry. The Kansas WIC information system (KWIC) is interfaced to the KSWebIZ registry to transmit demographic information from KWIC to KSWebIZ. This also allows KSWebIZ to transfer a child's immunization history and recommendations to the immunization section of the KWIC system, where they may be accessed by authorized WIC clinic staff. To allow this exchange of data, individual WIC caregivers must read and sign a consent form (Appendices A-3, A-4) to allow the WIC system to share any information about themselves or their children with the immunization registry.

A child's immunization status may be assessed by one of three methods. If caregiver consent for data exchange between KWIC and KSWebIZ has been provided, WIC staff may review the child's KSWebIZ immunization status through the Recommender/Reminder portion of the KWIC immunization screen. Alternatively, immunization status may be determined by reviewing a printed immunization record and comparing it to current recommendations of the Advisory Committee on Immunization Practices (ACIP) or by counting the number of doses of DTaP (diphtheria, tetanus and acellular pertussis) vaccine in relation to the child's age. If the child's immunization record is not available at the time of the WIC visit, the caregiver is instructed to bring the record to the next WIC appointment. Food vouchers are not withheld if a child is behind on immunizations or the caregiver fails to provide the immunization record.

WIC clinic staff document the findings of their immunization assessments and whether children were referred for immunization or vaccinated on-site by entering the information in the KWIC database. Figure 3 shows outcomes of immunization and screenings conducted during 2012. Of the 81,000 immunization assessments conducted during 2012, WIC staff identified children as being behind on immunizations more than 13,000 times. More than 7,000 referrals were made to connect children with immunizing providers in their communities, and the needed immunizations were provided in the WIC clinic setting nearly 1,700 times during 2012. In about 4,800 (22 percent) of the instances where children were identified as needing immunization, parents or caregivers reported that arrangements to obtain the needed shots were pending.

Figure 3. **Immunization Screening and Referral at Kansas WIC Clinics, 2012**



Source: Data extracted from the Kansas WIC data system, provided by the Kansas WIC program and analyzed by the Kansas Health Institute.

Beyond the mandatory minimum assessment and referral process, individual WIC clinics in Kansas may opt to implement additional measures to encourage and support immunization among their young clients. At the time of this report, the most recent available data documenting these practices were gathered in a 2005 survey conducted by WIC program administrators at KDHE (summarized in Table 1 on page 12). At that time, 71 percent of the responding WIC clinics reported that they coordinated their services with the local immunization clinic, about half (52 percent) reported having a nurse available on site to administer immunizations, slightly more than half (58 percent) reported the use of parental incentives and about a third (32 percent) reported the use of more frequent voucher pickups as an immunization incentive.

Table 1. **Immunization Activities in Kansas WIC Clinics, 2005 Survey (n=84)**

Question	Yes	No
At certification visits, does agency screen child's immunization status and provide a referral to immunization services if needed?	84 (100%)	0
Does clinic follow up to see if referrals are acted upon?	42 (50%)	42 (50%)
In 2005, did clinic schedule monthly voucher pickup for underimmunized children?	27 (32%)	57 (68%)
In 2005, did clinic provide parents with incentives to get child immunized?	49 (58%)	35 (42%)
Is WIC clinic located in same building as an Immunization Clinic?	67 (80%)	17 (20%)
If so, which of the following apply to your clinic?		
Have nurse onsite at WIC clinic administer immunizations	44 (52%)	NA
Make sure immunization services are available during WIC clinic	13 (15%)	NA
Other	19 (23%)	NA
None of the above	1 (1%)	
Does agency coordinate WIC and immunization services?	60 (71%)	24 (29%)

Source: Data supplied by Kansas WIC Program, Kansas Department of Health and Environment.

WIC–IMMUNIZATION COLLABORATIVE PROJECTS

Since 2003, the Kansas Immunization Program within the Kansas Department of Health and Environment has offered small noncompetitive grants to targeted WIC sites in Kansas for the purpose of increasing immunization coverage rates among children in the WIC program. The first WIC–Immunization Collaborative grant was awarded for a pilot project in Sedgwick County, where the baseline immunization rate among WIC children was 17 percent. Immunization rates among WIC children in the county improved dramatically, and in 2004 the Governor's Blue Ribbon Immunization Panel recommended expansion of the program to three additional counties with low immunization rates and large WIC client populations (Ford, Finney and Wyandotte counties). In 2008, Cherokee, Saline, Seward and Shawnee counties were added to the list, bringing the total to eight counties. These counties continue to be eligible for annual renewal of noncompetitive grants from the Kansas Immunization Program to support enhanced collaboration between WIC and immunization programs. Funding for these grants is drawn from a combination of CDC and state sources, and available funding totaled $365,000 for state fiscal year 2013.

The overall goal of the collaborative grant project is to increase immunization coverage rates among WIC-eligible children using the following strategies:

1) Staff from the Kansas Immunization Program provide training to WIC clinic staff on assessment of immunization records,
2) Document immunization records in the Kansas immunization registry (KsWebIZ), by direct entry or HL7 interface,
3) Refer children in need of immunization to their medical home or a local health department.

Grant funds may not be used to replace existing agency funding sources or for license or maintenance fees for immunization information systems. Applicant WIC agencies are considered for funding based on their implementation of grant strategies and their completion of objectives in previous funding periods. Funded WIC clinics are asked to submit semiannual progress reports. Participating sites are encouraged to implement strategies to increase immunization coverage, including reminder/recall notices and incentives for immunization. In addition to participation in the KDHE-sponsored "Immunize Win a Prize" incentive program, sites have the option to offer additional parental incentives.

At the time of this report, no specific data documenting changes in immunization rates among the grantee WIC clinics were available. Program staff indicated that reporting and evaluation methods for the program were in transition, and that efforts were in progress in coordination with WIC administrative staff at KDHE to develop additional reports and feedback to grantee clinics.

BARRIERS AND OPPORTUNITIES

When asked about barriers to successfully enlisting the help of WIC clinics in improving childhood immunization rates, administrators of the Kansas WIC program identified funding streams as a factor. WIC clinic costs are reimbursed based upon documented time and activities, with the central goal of the WIC program being to improve the nutritional health of low-income women, infants and children. Program administrators said that because of the target population served (infants and young children) and WIC's ability to directly reach about half of this target

group, the WIC program is frequently viewed by other child-oriented programs and projects as a convenient vehicle for accomplishing other early childhood goals such as immunization, reading readiness and reduction of childhood obesity. They indicated that these efforts to superimpose external objectives onto the core WIC program sometimes result in staff frustration and resistance. According to program administrators, some WIC clinic staff have also been reluctant to implement voucher restrictions when children are behind on immunizations out of concern that the requirement may result in increased dropout from the WIC program or that the increased visits create additional work for clinic staff.

Inconsistent access to information systems and the KSWebIZ immunization registry also were cited as barriers to successful integration of immunization assessment in WIC clinics. Consent rates for data sharing between the KSWebIZ and KWIC systems are low because caregivers must actively consent to allow WIC clinic staff access to KSWebIZ immunization information but caregivers are frequently confused about the implications of such a decision and decline to give their consent.

Despite these barriers, WIC administrators offered several opportunities to improve the integration of immunization support in Kansas WIC sites. They suggested that follow-up on referrals could be encouraged and improved. They also voiced support for offering on-site immunizations at all WIC clinics. Other suggestions included additional training and education for WIC clinic staff and increased use of Text4Baby messaging.

CONCLUSIONS AND RECOMMENDATIONS

Under federal mandate, all WIC clinic sites are required to assess the immunization status of the children they serve and make referrals to the child's medical home or an immunization clinic when indicated. Policies of the Kansas WIC program comply with the federal requirement, and all Kansas WIC clinics currently conduct immunization assessment and referral. Kansas WIC clinics document screening and referral activities in the KWIC database. During 2012, Kansas WIC clinics conducted more than 80,000 assessments, made more than 7,000 immunization referrals and provided nearly 1,700 shots to their young clients in the WIC clinic setting. In addition to screening and referral, many Kansas WIC sites have implemented other procedures to

encourage complete and up-to-date immunization, but these decisions have been made at the local level and are not uniform across the state. To date, no formal study or assessment has been conducted of the impact of Kansas WIC clinic activities on immunization rates. Similarly, no formal assessment has been conducted of the impact of targeted grants intended to encourage WIC–immunization collaboration.

Nationally, results from a limited number of published studies provide inconsistent evidence of the effectiveness of immunization screening and referral in WIC clinics as a strategy for improving immunization rates among WIC children. Evidence for screening and referral accompanied by parental gifts or reminder and follow-up systems is also inconclusive. Stronger evidence of improvement in immunization rates has been observed in settings where voucher incentives (requiring more frequent clinic visits to pick up food vouchers) have been implemented in addition to the basic screening and referral process.

To date, there has been only limited assessment of the impact of efforts to integrate immunization activities into Kansas WIC clinic sites. The varied immunization practices in place in Kansas WIC clinic sites and the ready availability of process and outcome data collected through the KWIC and KsWebIZ systems offer an opportunity for further study and enhanced understanding of how best to continue collaborative efforts toward the goal of increasing immunization rates among young children. The targeted WIC immunization grants offered by the KDHE Immunization Program also offer an opportunity to test the effectiveness of varied intervention strategies. Program managers should consider conducting an updated survey of immunization strategies currently in use among Kansas WIC clinics. Data from such a survey could then be analyzed in combination with data on clinic characteristics (size, staffing, population served), assessment and referral activities (from the KWIC system), and immunization coverage rates among children enrolled at each WIC site to assess which interventions are most strongly correlated with higher rates of immunization coverage. The knowledge and insights gained could help identify practices and strategies to effectively and efficiently shape future efforts.

While it is easy for immunization advocates to become excited about the possibilities offered by collaboration with WIC clinics, it is also important to remember that the primary goal of WIC clinics is to improve the nutritional status of low-income mothers, infants and children. Efforts to superimpose additional early childhood objectives and practices on WIC clinic operations must be designed with careful consideration of the potential for competing objectives, a realistic assessment of the resources needed to successfully implement those objectives and full funding support from sources external to the WIC program.

APPENDIX A: MEMORANDA AND POLICIES

APPENDIX A-1. USDA FINAL POLICY MEMORANDUM #2001-7

August 30, 2001

SUBJECT: Final WIC Policy Memorandum #2001-7
Immunization Screening and Referral in WIC

TO: Regional Directors
Supplemental Food Programs
All Regions

I. PURPOSE

The purpose of this policy memorandum is to assure that children served by WIC are screened for immunization status and, if needed, referred for immunizations. WIC State and local agencies must ensure that WIC infants and children are screened and referred for immunizations using a documented immunization history.

It is not the intent of this policy memorandum to outline procedures to replace more comprehensive immunization screening, assessment and referral activities now in place in WIC and/or paid for and conducted by other services and programs. Instead, these procedures specify the minimum requirements for immunization screening and referral in WIC, as directed by the Executive Memorandum of December 11, 2000.

II. BACKGROUND

WIC's mission is to be a full partner in ensuring healthy and well-nourished women, infants, and children. Low-income children are less likely to be immunized than their counterparts, placing them at high risk for potentially serious diseases, such as diphtheria, pertussis, poliomyelitis, measles, mumps, and rubella. According to the Centers for Disease Control and Prevention (CDC), children who are not fully immunized are at increased risk for other preventable conditions, such as anemia and lead toxicity.

Educating WIC participants and their families about the importance of immunizations and providing referrals to immunization services has been a part of WIC's efforts for over 20 years. WIC staff have approached immunization promotion activities with energy and creativity and have made a positive difference in immunization rates in many States. WIC is acknowledged as an important ally in reaching the immunization coverage objectives for the Nation. CDC's National Immunization Survey (NIS) data indicates that children participating in WIC have significantly lower immunization coverage rates than their more affluent, non-WIC counterparts. However, low-income children in WIC are better immunized than low-income children who do not participate in WIC.

In December 2000, an Executive Memorandum was issued directing the Secretaries of Agriculture and Health and Human Services to continue to focus efforts to increase immunization levels among children participating in the WIC Program. The Executive Memorandum specified that the immunization status of children applying for WIC services be evaluated using a documented immunization history. It also directed that immunization screening and referral procedures should never be used as a condition of eligibility for WIC services or nutritional assistance.

III. WIC's Role in Immunization Screening and Referral

The Immunization Program in each State is the lead agency in immunization planning and screening, and is responsible for design of immunization services, etc. As an adjunct to health services, the WIC Program's role in immunization screening and referral is to support existing funded immunization activities. WIC involvement in immunization screening and referral activities should enhance rather than substitute for on-going Immunization Program initiatives.

WIC State and local agencies must develop plans to coordinate with providers of immunization screenings so that children participating in WIC are screened and referred for immunizations using a documented immunization history. The purchase of vaccines and delivery of immunizations remain unallowable costs to WIC.

IV. Minimum Immunization Screening and Referral Protocol in WIC

The following minimum screening protocol was developed by CDC and the American Academy of Pediatrics specifically for use in WIC Programs where children are not screened and referred for immunizations by more comprehensive means. The purpose of the minimum screening and referral protocol is to identify children under age two who may be at risk for under-immunization. It is not meant to fully assess a child's immunization status, but allows WIC to effectively fulfill its role as an adjunct to health care by ensuring that children who are at risk for under-immunization are referred for appropriate care.

This is the minimum requirement; however, some WIC Programs conduct more comprehensive immunization screening and referral. For example, some have access to software that automatically reviews all vaccinations and identifies which ones are needed. WIC Programs with the capacity to perform more comprehensive screening should continue to do so.

Minimum Screening and Referral Protocol

1. When scheduling WIC certification appointments for children under the age of two, advise parents and caretakers of infant and child WIC applicants that immunization records are requested as part of the WIC certification and health screening process. Explain to the parent/caretaker the importance that WIC places on making sure that children are up to date on immunizations, but assure applicants that immunization records are not required to obtain WIC benefits.

2. At initial certification and all subsequent certification visits for children under the age of two, screen the infant/child's immunization status using a documented record. A documented record is a record (computerized or paper) in which actual vaccination dates are recorded. This includes a parent's hand-held immunization record (from the provider), an immunization registry, an automated data system, or a client chart (paper copy).

3. At a minimum, screen the infant/child's immunization status by counting the number of doses of DTaP (diphtheria and tetanus toxoids and acellular pertussis) vaccine they have received in relation to their age, according to the following table:

By 3 months of age, the infant/child should have at least 1 dose of DTaP.
By 5 months of age, the infant/child should have at least 2 doses of DTaP.
By 7 months of age, the infant/child should have at least 3 doses of DTaP.
By 19 months of age, the infant/child should have at least 4 doses of DTaP.

4. If the infant/child is underimmunized: (1) provide information on the recommended immunization schedule appropriate to the current age of the infant/child, and (2) provide referral for immunization services, ideally to the child's usual source of medical care.

5. If a documented immunization record is not provided by the parent/caretaker: (1) provide information on the recommended immunization schedule appropriate to the current age of the infant/child, (2) provide referral for immunization services, ideally to the child's usual source of medical care, and (3) encourage the parent/caretaker to bring the immunization record to the next certification visit.

V. Coordination

CDC will ensure that the Immunization Programs in each State coordinate with WIC State and local agencies to assure that children participating in WIC are screened by and referred to dedicated Immunization Programs and immunization providers when available. Immunization Program managers should:

· cooperatively plan and fund, where needed, immunization screening and referral in WIC
· train WIC staff
· provide information on provider networks to whom WIC participants can be referred
· conduct provider education and outreach
· conduct participant outreach/tracking
· provide information on State and local immunization coverage rates for WIC children
· provide recommended immunization schedules

We encourage State and local WIC programs to coordinate with their immunization counterparts to ensure that a screening and referral system is in place for WIC participants, as outlined above. This coordination can be facilitated through a formal agreement that outlines the responsibilities of the State Immunization Program and the WIC Program. CDC is providing State Immunization Program managers with a copy of this policy memorandum and will also issue guidance to Immunization Programs on working with WIC (see attached CDC "Dear Colleague" letter).

VI. Training

CDC will take the lead role in developing materials and training to assist WIC staff in implementing the screening and referral activities outlined above. Training will be coordinated with the Food and Nutrition Service (FNS), the National Association of WIC Directors, the Association of Immunization Managers, and the Association of State and Territorial Health Officials. Each WIC local agency with staff qualified to conduct immunization screening may provide training, as needed, to WIC staff who make referrals. FNS recognizes that the training component is under development and that sufficient time must be allowed for WIC staff to be trained to conduct these activities.

VII. Implementation

WIC Programs in State or local areas where National Immunization Survey data show that immunization coverage rates in WIC children by 24 months of age are 90 percent or greater are not required to comply with the minimum screening and referral protocol. WIC Programs can coordinate with Immunization Programs to determine pockets of need within a State through additional data sources if desired.

Implementation of this policy memorandum is expected to be in place by October 1, 2002. This date allows sufficient time for training, modification of certification in-take procedures, and coordination with Immunization Programs.

In the State Plan for fiscal year (FY) 2003 (section on certification and eligibility), each State agency must outline how it is meeting the requirements of this policy memorandum. The State agency must document one or more of the following: 1) WIC local programs are screening children under the age of two using a documented immunization history, either using the minimum screening protocol or by more comprehensive means; or 2) another program or entity is screening and referring WIC children using a documented immunization history; or 3) implementation of the minimum screening protocol is not necessary because immunization coverage rates in WIC children by 24 months of age are 90 percent or greater; or 4) it has been unable to formalize a coordination agreement with the State Immunization Program, and provide explanation of extenuating circumstances.

Signed by Patricia N. Daniels

PATRICIA N. DANIELS
Director
Supplemental Food Programs Division

Attachment

FINAL:FNS:SFPD:PMITCHELL:sl:08/30/01:703-305-2747
FINAL:FNS:SFPD:P.Mitchell:703-305-2741:8-20-01
FC: PWP-20
DOC: I drive:p.mitchell:immunizations:final WIC policy memo

APPENDIX A-2. KANSAS WIC POLICY: CRT 08.01.00 IMMUNIZATION SCREENING AND REFERRAL

Subject: Immunization Screening and Referral

Effective Date: October 1, 2011 Revised from: April 1, 2009

Policy: All infants and children served by WIC are screened for immunization status at each certification and mid-certification appointment by using a documented immunization history and if needed, referred for immunizations. In this policy, the term child refers to both infants and children.

Reference: MPSF:WC-01-35-P

Procedure:
1. Acceptable records of a documented immunization history include but are not limited to the Kansas Immunization Registry (KSWebIZ) interface in KWIC, a hand-held immunization record, an immunization registry, an automated data system, or a client chart.

2. When a certification or mid-certification appointment is scheduled for a child, WIC staff will:

a. Advise the caregiver that documented immunization records are needed as part of the WIC certification/mid-certification and the health screening process.

b. Advise the caregiver that the child's immunization record in KSWebIZ can be electronically shared with KWIC. (see PPM CRT 08.01.01 – Interface between the Kansas Immunization Registry and KWIC)

c. Advise the caregiver to bring the child's immunization record to the certification or mid-certification appointment.

d. Include a notice to bring the immunization record on the appointment letter.

3. During a certification or mid-certification for a child, WIC staff will:

a. Review the current immunization record.

b. Screen the immunization status by using one of the following methods.

i. Review the KSWebIZ Recommender/Reminder portion of the KWIC Immunization window. Compare the read only KSWebIZ immunization history on the KWIC Immunization window with the child's written immunization record, if verbal information from caregiver varies from that displayed in KWIC.

ii. Count the number of doses of DTaP (diphtheria and tetanus toxoids and acellular pertussis) vaccine recorded in relation to their age, according to the following table.
(a) By 3 months of age the infant should have had 1 or more doses.
(b) By 5 months of age the infant should have had 2 or more doses.
(c) By 7 months of age the infant should have had 3 or more doses.
(d) By 19 months of age the child should have had 4 or more doses.

iii. OR Compare the complete immunization record with the current Advisory Committee on Immunization Practices (ACIP) Recommended Childhood Immunization Schedule.

c. Document the results of the review on the KWIC Immunization window.

i. Current for Age

(a) The child's record indicates their immunizations are appropriate for their age on the day of the certification or mid-certification visit.

(b) If the child will be due for an additional vaccination within the next month, refer to the child's medical home. Document the referral on the KWIC Referral Window.

ii. Behind for Age - The child's record indicates that his or her immunizations are not appropriate for their age on the day of the certification or mid-certification visit.

(a) In Process/Upcoming Appointment
(i) The child already has an appointment scheduled to receive the needed vaccinations.
(ii) It is too early for the child to be immunized based on the duration of time since their last vaccination.

(b) Referred – The child was referred to their medical home for needed immunizations.

(c) Shot Provided
(i) The child received the needed vaccination(s) on the same day as the WIC certification or mid-certification.
(ii) If the WIC clinic is located at the child's medical home, it is strongly recommended that immunizations be provided by the appropriate staff while the child is still in the clinic.

iii. Record not Available

(a) The current immunization record is not available.

(b) Instruct the caregiver to bring the immunization record to the next WIC appointment.
(i) Include a notice to bring the immunization record on the next appointment letter.
(ii) Add a Staff Reminder in KWIC to review immunization record at next appointment.

d. Provide information to caregiver on the recommended immunization schedule.

APPENDIX A-3. KANSAS WIC POLICY: CRT 08.01.01 INTERFACE BETWEEN THE KANSAS IMMUNIZATION REGISTRY AND KWIC

Subject: Interface between the Kansas Immunization Registry and KWIC

Effective Date: April 1, 2009 Revised from:

Policy: There is an interface between the Kansas WIC Program computer system (KWIC) and the Kansas Immunization Registry (KSWebIZ). For all infants and children, demographic information including, client name, gender, birth date, address and telephone number is sent from KWIC to KSWebIZ. Read-only information about the client's immunization history and the recommendations for needed or upcoming vaccinations from KSWebIZ are visible on the Immunization window of client's KWIC record. Information about WIC participation is NOT available to KSWebIZ users.

Each caregiver must read and sign the Kansas WIC Program Authorization for Electronic Exchange of Information to the Kansas Immunization Registry form prior to the WIC system sharing any information with an immunization registry. The form should not be signed in connection with a certification. It may be signed when WIC benefits are requested, at check pick-up or at the initial certification after checks have been issued. The signed form shall be retained at the LA.

Procedure:

1. When WIC benefits are requested for an infant or child, WIC staff will:

    a. Describe the KWIC / KSWebIZ interface to all caregivers, including a summary of exactly what information is exchanged.

    b. Ask caregivers if they will allow the electronic exchange of demographic information between KWIC and KSWebIZ.

2. The caregiver will indicate consent or refusal to release the information by marking the appropriate box and signing the Kansas WIC Program Authorization for Electronic Exchange of Information to the Kansas Immunization Registry.

    a. The release form does not expire and covers all members of the caregiver's group, including members that may be added after the caregiver signs the form.

3. Staff will indicate the caregiver's preference on the demographic tab on the Client Homepage and the Apply for WIC window in KWIC by answering the "Release of Information Web-IZ for all family members" question.

APPENDIX A-4. KANSAS WIC WEBIZ AUTHORIZATION FORM

Kansas WIC Program Authorization for Electronic Exchange of Information to the Kansas Immunization Registry

Please read this form carefully. Check the appropriate box and sign below.

Caregiver Name _____

The Kansas WIC Program and Kansas Immunization Registry have an electronic link to help you be sure that your child's immunization records are correct. If you agree to allow the electronic exchange of information between the Kansas WIC Program (KWIC) and Kansas Immunization Registry (KSWebIZ), WIC staff will be able to view your child's immunization records from KSWebIZ and tell you if another shot is needed. WIC or other health department staff will create or update your child's immunization records in KSWebIZ to make sure everything is up to date. Confidentiality will be kept as required by law.

Demographic information including name, birth date, address, telephone number and gender will be exchanged from KWIC to KSWebIZ for all the infants/children that you have enrolled in WIC.

Nothing in KSWebIZ will show that this information is from a WIC clinic. Other users of KSWebIZ will **not** be able to know anything about your children's WIC participation.

If you agree to the information exchange as described above, the consent will be in effect unless you write a request to the WIC staff asking to stop the exchange of information.

Your WIC services will **not** be affected if you refuse to allow the information exchange.

Signing below means that you have read the above information about the electronic exchange of information. It also means that you have had the chance to ask questions and your questions were answered.

☐ I **consent** to the release of demographic information to KSWebIZ for all my family members who are enrolled in the Kansas WIC Program.	☐ I **refuse** to allow the release of demographic information to KSWebIZ for my family members by the Kansas WIC Program.

Signature of Caregiver _____ Date _____

Signature of Witness _____ Date _____

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