

Seattle-King County Department of Public Health Immunization Program

Report No. 96-10 -- Report Summary

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INTRODUCTION AND BACKGROUND

The management audit of the Seattle-King County Department of Public Health (SKCDPH) Immunization Program was initiated at the request of the Metropolitan King County Council and included in the Auditor's Office 1996 work program. The audit was prompted by Council interest in a review and evaluation of SKCDPH policies and practices related to immunizing children from birth to five years of age, when children are most vulnerable to the serious complications of infectious disease.

The SKCDPH Immunization Program was established for the control and prevention of infectious disease. Its mission is to promote and assure high levels of immunizations within all segments of the community. Technical oversight and coordination of the SKCDPH Immunization Program are centralized in the Prevention Services Division Communicable Disease Control/Epidemiology Section and direct immunization services are provided at 10 SKCDPH Health Service Centers. The 1995 Immunization Program operating budget of \$3.2 million funded approximately 6 FTE (full-time equivalent) centralized management and coordination positions in addition to 17 FTE nursing and clerical positions.

OBJECTIVE AND SCOPE

The primary objective of the Immunization Program audit was to review and evaluate the effectiveness of SKCDPH policies, practices, and services for the immunization of children from birth to five years of age. Management controls established for the SKCDPH Immunization Program were also reviewed.

SUMMARY STATEMENT OF FINDINGS

The general audit conclusion was that the SKCDPH Immunization Program was effective in improving the general immunization completion rates for King County's preschool-aged children from 61% to 77% during the past five years. However, additional education and outreach efforts were required to improve the immunization completion rates for inner-city preschool-aged children (52%), preschool-aged children in licensed day care homes (47%), and SKCDPH's primary pediatric clients (54%). In addition, SKCDPH's management controls and customer service approach (e.g., accessibility and availability) needed to be strengthened to fully integrate immunization services within the SKCDPH Health Service Centers and to attain the national, State, and SKCDPH immunization completion goals for preschool-aged children.

MAJOR FINDINGS AND RECOMMENDATIONS

Finding III-1. While the immunization completion rates for King County's preschool-aged children generally improved during the past five years, only 52% of inner city preschool-aged children and 54% of SKCDPH'S primary pediatric clients were fully immunized.

The pediatric immunization coverage objectives established by the U.S. Department of Health and Human Services, Washington State Department of Health, and SKCDPH require the completion of the basic immunization series for 90% of children two years of age and under, 95% of children in licensed child care facilities, and 95% of children in kindergarten through post-secondary education by the year 2000. (The Recommended Childhood Immunization Schedule is displayed on page 5 of the audit report.) While the immunization completion rates for King County's preschool-aged children generally increased from 61.3% to 77% during the past five years, only 52% of inner city preschool-aged children and 54% of SKCDPH's primary pediatric clients were fully immunized. While improved immunization completion rates for the general population and lower completion rates for inner-city preschool-aged children and SKCDPH low-income pediatric patients were consistent with national trends, additional education and outreach efforts were required to achieve the established immunization completion goals, particularly for preschool-aged children.

The audit recommended that the SKCDPH Immunization Program continue its efforts to attain a 90% immunization completion rate for King County's preschool-aged children. In addition, SKCDPH should target additional education and outreach efforts toward accelerating the immunization completion rate for preschool-aged children in inner-city areas and for SKCDPH pediatric patients and clients. Priority should be given to planning and scheduling immunization services for low-income families until the immunization completion level is consistent with the general County-wide immunization completion rate.

Finding III-2. Vaccine-preventable disease outbreaks in King County have generally declined since 1990 consistent with national disease reduction objectives.

Vaccine-preventable disease outbreaks in King County have generally declined since 1990, consistent with national disease reduction objectives. (The national disease reduction goals are displayed in Exhibit IV on page 14 of the audit.) However, the number of hepatitis B and pertussis cases have steadily increased as a percentage of reported cases. While many of the cases involve older children and adults, only 38% of children in King County had three hepatitis B immunization by age two, and the outbreak data clearly suggested the need to focus more

resources on improving immunization levels for these diseases.

The audit recommended that SKCDPH continue its efforts to improve immunization completion rates in King County, particularly in inner-city areas, to reduce vaccine-preventable disease outbreaks among King County's preschool-aged children and general County population, as well as continue surveillance and containment efforts to reduce the incidence of vaccine-preventable childhood diseases in King County consistent with the year 2000 disease reduction objectives.

Finding III-3. The SKCDPH immunization program has not achieved full compliance with the standards for pediatric immunization practices, resulting in lower immunization rates for its pediatric clients.

The SKCDPH Immunization Program has not yet achieved full compliance with national standards for pediatric immunization practices, resulting in missed opportunities and lower immunization completion rates for SKCDPH pediatric clients. SKCDPH did not provide immunization services during all hours of the clinic operation; waiting times exceeded 30 minutes during certain days of the week and times of the year in some clinics; children were not routinely screened for needed vaccines during other scheduled clinic visits; vaccines were not simultaneously administered during each visit; immunization appointments were not co-scheduled in conjunction with appointment for other child health services; recording procedures were not complete and accurate; and semi-annual audits to assess immunization coverage levels and to review patient populations records were not completed.

The audit recommended that the SKCDPH Immunization Program continue to work toward full compliance with the national standards for pediatric immunization practices and minimize missed opportunities to immunize King County's preschool-aged children. Efforts should be focused on expanding clinic hours when appropriate, educating clinic personnel to thoroughly screen for needed vaccinations, and training all clinic-based nursing personnel to provide required immunizations during the same visit. In addition, SKCDPH should fully implement CHLD Profile, train immunization clinic personnel to complete individual client immunization records on CHLD Profile, and conduct semi-annual assessments of SKCDPH clinic practices at each Health Service Center.

Finding III-4. SKCDPH's child care immunization services did not adequately focus on improving immunization rates for preschool-aged children in state-licensed child care centers and day care homes.

SKCDPH's Child Care Immunization Services did not adequately focus on improving immunization completion rates for preschool-aged children in state-licensed child care centers and day care homes. As a result, the immunization completion rate was 70.4% for preschool-aged children in licensed child care and 47.4% for children in licensed child care homes (e.g., homes serving a maximum of 12 children), which were significantly below the established immunization objective of 95% for children in licensed child care.

The audit recommended that SKCDPH continue to develop child care health assessment procedures and technical guidelines for nursing personnel. Greater emphasis should be placed on vaccine-preventable diseases and the national, State, and SKCDPH goal to improve the immunization completion rates for King County children enrolled in the State-licensed child care centers and day care homes. In addition, SKCDPH, in cooperation with the Washington State Department of Public Health, should clarify roles and responsibilities for the enforcement of the State law requiring licensed child care providers to maintain documentation that all children are fully immunized.

Finding III-5. The CHLD profile immunization registry, developed by SKCDPH and Snohomish County Health District, was not operational in SKCDPH CLINICS. SKCDPH's records and recall/reminder systems were also inadequate to ensure that 90% of King County's preschool-aged children were fully immunized.

While the SKCDPH and Snohomish County Health District developed a sophisticated

immunization registry, CHILD Profile, the system was not fully operational in SKCDPH clinics and SKCDPH's immunization records and recall/reminder systems were not adequate. Health authorities consistently identified accurate and complete recording procedures as well as a tracking system as the key to eliminating missed opportunities and improving immunization coverage levels. Intensive tracking efforts were also recommended for preschool-aged children considered at high-risk of failing to complete immunizations. Thus, SKCDPH's inadequate immunization registry and tracking system for its Immunizations Clinics was of particular concern given the lower than average immunization coverage levels for SKCDPH pediatric and primary care clients. The absence of an effective immunization registry also contributed to more missed opportunities to immunize SKCDPH's preschool-aged clients, higher administrative costs to conduct both individual pediatric client assessments and clinic-wide immunization assessments, a less efficient recall/reminder process, and inaccurate reporting due to an incomplete data base.

The audit recommended that SKCDPH, in cooperation with the Snohomish County Health District, continue its effort to fully implement the CHILD Profile immunization registry. Given the lower than average immunization coverage levels for SKCDPH pediatric clients and primary care clients, priority should be given to implementing the registry in SKCDPH Health Service Centers, and fully training immunization personnel to use the immunization registry to ensure the accuracy and completeness of the immunization data that is maintained for its pediatric and primary care clients. In addition, semi-annual immunization assessments should be conducted as recommended by the Standards for Pediatric Immunization Practices.

SKCDPH should also actively market the CHILD Profile immunization registry to other public and private health care providers, particularly to those providers in urban areas serving a high concentration of low-income families, to eliminate missed opportunities and to improve immunization coverage for low-income preschool-aged children to a level consistent with the general King County rate.

Finding IV-1. Although SKCDPH implemented a range of services to benefit King County's preschool-aged children, the management controls for the immunization program need to be strengthened to integrate services within the health service centers and to attain the immunization rates established for pediatric clients.

Although SKCDPH established measurable goals and implemented a range of immunization services to benefit King County's preschool-aged children, few resources were focused on internal management and oversight functions. The absence of effective SKCDPH management controls led to disparate service approaches and immunization completion rates for high-risk preschool-aged clients who were served in nine SKCDPH Health Service Centers. In addition, the Immunization Program staffing level and costs rose disproportionately to the declining number of immunizations administered between 1990 and 1995. Thus, SKCDPH's management controls need to be strengthened to integrate immunization services within the health service centers and attain the national immunization completion goals established for its pediatric clients.

The audit recommended that the SKCDPH Immunization Program, in cooperation with top department management and the Health Service Center administrators, establish stronger management and program controls for pediatric immunization services. The improved controls should focus on more effective implementation and integration of clinic services and resources to ensure that all SKCDPH pediatric clients are fully immunized prior to leaving the Health Service Center. In addition, the SKCDPH Immunization Program should develop a mechanism to provide for accurate and continuous monitoring and reporting of the immunization status for SKCDPH's pediatric client (i.e., fully implement CHILD Profile). SKCDPH Immunization Program, in cooperation with top department management and Health Service Center administrators, should also prioritize and target additional annual resource allocations to immunization clinics that serve more low-income, high-risk, preschool-aged clients.

Finding IV-2. SKCDPH'S vaccine distribution program maintained an excellent accountability standard while significantly expanding its inventory during the past five years. The vaccine distribution program's internal controls, however, could be strengthened to minimize loss exposure.

SKCDPH'S vaccine distribution program maintained an excellent accountability standard while significantly expanding its inventory during the past five years. The vaccine distribution program's internal controls, however, could be strengthened to minimize loss exposure.

Between 1990 and 1995, the vaccine doses distributed by the SKCDPH Vaccine Distribution Program to private providers substantially increased from 152,164 to 364,152 doses (139% increase). In addition, SKCDPH's vaccine inventory was well within the State-mandated 95% accountability threshold. The one issue identified during the current on-site review of the vaccine reconciliation process was that SKCDPH personnel manually adjusted the computerized perpetual inventory system at the conclusion of the physical count based upon the amount of vaccine on hand. The practice of manually overriding the automated vaccine count was questionable because the same SKCDPH personnel that distributed the vaccines to private providers also reconciled the monthly inventory balances. The potential loss exposure (e.g., theft) created by the current reconciliation practices was also important because the Vaccine Tracking Coordinator, Washington State Auditor, and Washington State Immunization Program Consultant indicated that no on-site review or monitoring of the SKCDPH vaccine inventory-with a market value of \$2.6 million-had been conducted since the 1992.

The audit recommended that SKCDPH Immunization Program, in cooperation with the Washington State Immunization Program, improve its internal controls to ensure that publicly-funded vaccines are appropriately safeguarded and to reduce potential loss exposure. Periodic reviews of the monthly accountability reports should be completed by SKCDPH management along with an annual independent count of the vaccine inventory.

Finding IV-3. Despite numerous studies conducted by SKCDPH and other immunization programs indicating the importance of accessible immunization services, SKCDPH has not modified its service approach for immunization clients.

Numerous articles and studies have been published that stress the importance of the availability and accessibility of immunization clinic services for preschool-aged children, particularly for preschool-aged children at high-risk of incomplete immunization. However, SKCDPH has not significantly modified its customer services approach in response to immunization clients needs. For example, although access and availability issues were identified as one of two most frequently mentioned immunization barriers during client focus groups, clinic hours were not expanded and waiting times were lengthy in some clinics. There was also little coordination of services with other programs, and the records and tracking system were ineffective. Since immunization barriers generally affected low-income and otherwise disadvantaged families more than families with higher incomes, it is particularly important for SKCDPH to promote available and accessible immunization services for King County's preschool-aged children.

The audit recommended The audit recommended that the SKCDPH Immunization Program, in cooperation with the Health Service Centers, conduct an immunization clinic consumer satisfaction survey and compute waiting times for immunization services in each of the Health Service Centers. The number of clients who are denied service or fail to return for delayed appointments should also be determined. Specific recommendations for improving clinical immunization services should be incorporated into the study along with a timeline for implementation.

In addition, the audit recommended that SKCDPH Immunization Program ensure that immunization services are available throughout the regular hours of operation and are adequately coordinated with the other SKCDPH health services. Specifically, preschool-aged clients who enter the clinic for other health services should also be screened for immunization status and given priority for required immunization services.

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