THE IHS PRIMARY Care provider

A journal for health professionals working with American Indians and Alaska Natives

December 1999

Volume 24, Number 12

SEALTLY

New RPMS Immunization Package Facilitates Immunization Tracking and Recall

Rosalyn Singleton, MD; Michael Remillard, DDS, Programmer; Irma DeSmet, RN, all from the Alaska Native Tribal Health Consortium, Anchorage, Alaska

Later this year Headquarters West Division of Information Resources will release a complete rewrite of the Resource and Patient Management System (RPMS) Immunization software package. This new version, 7.0, replaces Version 6.8 of the MCH package. With the same release, Q-man will be updated so that the vaccine codes reflect the new immunization codes, and the Immunization section of the Health Summary will be reformatted.

Retained Features

The new package retains all of the features contained in Version 6.8, as follows:

- 1. ability to track immunizations and forecast immunization due dates
- 2. ability to add and edit immunizations and skin tests
- 3. ability to print lists of, and letters to, persons due for immunizations
- 4. ability to print Quarterly Immunization Report (ageappropriate immunization rates for children ages 3-27 months) and Vaccine Accountability Report (doses administered, by age)

New Features

In addition, the new Immunization Package contains several new or updated features that increase its usefulness for immunization tracking and recall.

IMM/Serve Forecasting Algorithm. One of the problems with the old immunization program was its inability to keep up with the rapidly changing immunization schedule. To overcome that shortcoming, we contracted with Medical Decisions Associates for a license to use their IMM/Serve forecasting

software, which evaluates immunization histories and determines due dates. IMM/Serve is updated each time there is a change in vaccine recommendations and currently forecasts DTaP/Td, hepatitis B, polio, MMR, hepatitis A, varicella, Hib and pneumococcal conjugate vaccines (Table 1). IMM/Serve allows the user to choose among several vaccine scheduling options and to choose which vaccines will be forecast. The forecasting algorithm also includes universal forecasting of influenza and pneumococcal vaccines for persons 65 years of age and older, and the ability to build a registry of high risk individuals who need these vaccines. Other vaccines, (e.g., meningococcal, typhoid) and immune globulins (e.g., HBIG, RSV Monoclonal antibody) are available for data entry but are not forecast.

Expanded Data Entry Function. The new Immunization Package facilitates data entry at the time of vaccination, and captures all of the documentation required by the National Childhood Vaccine Injury Act, including date, age, facility, vaccine type and series number, lot number, date of Vaccine Information Statement, and vaccine provider.

Customized Due Letters. In the new package, a manager can easily customize Due Letters and Official Immunization

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Vaccine	minimum age forecast	maximum age forecast	
DTaP/Td	2 months	_	
polio	2 months	18 years	
Hib	2 months	59 months	
hepatitis B	birth	18 years	
varicella	12 months	18 years	
MMR	12 months	18 years	
hepatitis A	24 months	18 years	
*conjugate pneumococcal	2 months	59 months	
pneumococcal polysaccharide	65 years (55 in Alaska)	_	
influenza	65 years	—	
* RSV Monoclonal antibody (Synagis) is not forecast, but is available for data entry.			

Table 1. Vaccines forecast through the new immunization program as of November, 1999°

NOV MONOCIONAL ANLIDODY (Synagis) is not forecast, but is available for data entry.
 ** Forecasting for conjugate pneumococcal vaccine should be inactivated by the program manager until this vaccine is available.

Reports, and maintain several letter formats including Due Letters, Well Baby Clinic reminders, and Official Immunization Records.

Due List and Due Letter Options. The new package offers more options in selecting due letters or lists for a patient group, including the ability to make a search template from Q-man (i.e., all adults over 65 who had a visit in the past year) and apply it to a list or batch of letters. The provider can search for a specific vaccine received or due, or for a specific lot number received.

Export Utility. The new package gives a manager the ability to download patient and immunization data from RPMS into a flat text file (ASCII or HL7). From this text file, the data can be imported to a software package like the CDC immunization auditing software, CASA, or to a State Immunization Registry.

Two Year Old Report. In addition to the Quarterly Immunization Report (Table 2), the new package contains a new Two-Year-Old Immunization Report (Table 3), which presents vaccine-specific (e.g., one MMR by age 2 years) and vaccine-combination (e.g., four DTaP, three polio, three Hib, three Hep B, one MMR) immunization rates for two-year-olds to chart progress toward National Health Objectives.

Table 2. Definitions of age-appropriate immunizations byage for the Quarterly Report

Age Range	Minimum requirement for age-appropriate immunizations
3-4 months	one DTaP, one polio, one Hib, one HepB
5-6 months	two DTaP, two polio, two Hib, two HepB
7-15 months	three DTaP, two polio, two Hib, two HepB
16-18 months	three DTaP, two polio, three Hib, two HepB, one MMR
19-23 months	four DTaP, three polio, three Hib, three HepB, one MMR
24-27 months	four DTaP, three polio, three Hib, three HepB, one MMR

Table 3. Immunization rates calculated for 24-35 month-olds in the Two-Year-Old Report

Calculation	Example
Vaccines completed by specific ages	DTaP#1 by 3, 5, 7, 12, 16, 19, 24, or 36 months
Vaccine series completed by specific ages	DTaP#1, polio#1, Hib#1, and HepB#1 by 3, 5, 7, 12, 16, 19, 24, or 36 months
National Objectives	DTaP#4, polio#3, Hib#3, MMR#1, by 24 or 36 months

Using The Immunization Package to Improve Immunization Rates

Evidence from published studies shows that recall messages to families of children overdue for immunizations and reminders in advance of appointments were the most cost-effective means of improving immunization rates.¹ Acomputerized registry is the backbone of a tracking and recall system.^{2,3} The key components are an accurate count of children who are followed in your clinic, accurate immunization histories in the database, timely reminders sent to children due for immunizations, follow-up of children who miss immunizations, and regular determination of immunization rates with feedback to providers about the rates and ways to improve them.

Accurate count of children followed in clinic. Maintaining an accurate registry of children requires that all children within one's jurisdiction are registered in the RPMS and activated into the immunization registry. At Alaska Native Medical Center (ANMC), any child less than 2 years old who is registered in RPMS is activated into the immunization registry at the time of registration. In addition, someone needs to inactivate children who move or go to another provider. The new Immunization Package allows a manager to designate why a child was inactivated (when a death is entered into RPMS, the person is automatically inactivated).

Accurate immunization histories. Having accurate immunization histories involves a lot of work. It requires timely data entry for all immunizations given in clinic, as well as data entry of historical vaccines given elsewhere. After years of frustration with an inaccurate database, the ANMC pediatrics clinic began doing point-of-service data entry in 1996. Nurses and case manager also enter historical immunizations.

Timely reminders. If the immunization histories are accurate, then a manager or nurse can print accurate due letters for parents. In addition, reminder letters can be printed and sent to parents of children "past due" (over a month overdue) for immunizations.

Regular determination of immunization rates. Research shows that assessment of immunization rates and feedback to providers can improve immunization rates in a clinic practice. If the immunization histories are accurate, a manager can print age-appropriate immunization rates (Quarterly Report) and two-year-old immunization rates (Two-Year-Old Report) to apprise clinic staff of progress in meeting immunization goals. Reviewing these reports will help individual clinics determine where to concen-

trate their efforts (e.g., if 3- to 4-month-olds have low immunization rates, a clinic will want to concentrate on getting infants in for their 2-month-old immunizations).

Case Report

In 1991 the immunization rate for Anchorage children followed at ANMC was unknown, and the RPMS Immunization Package was not being utilized. That year, the pediatrics clinic decided to place a high priority on achieving on-time immunizations. A programmer activated all Anchorage children less than two years old (n = ~ 2000) registered in the RPMS into the Immunization Registry. A case manager was assigned, who reviewed charts and inactivated about 350 patients who had moved or who were receiving care elsewhere. The case manager then conducted quarterly reviews of children 3 to 27 months of age who were overdue for immunizations and sent due letters or followed up with parents by phone. In 1996 nurses began pointof-service data entry, which allowed entry of lot numbers, contraindications, and adverse events, thus improving the quality and timeliness of immunization data entry. Currently, in 1999, the age-appropriate immunization rate for Anchorage children is 84-89% (Figure 1) despite the high turnover rate for clinic patients, and a large number of patients who utilize multiple facilities. Nurses enter all the required documentation items (vaccine, date, dose number, lot number, Vaccine Information Statement date, and provider) for each vaccine given in pediatrics clinic.

For more information, contact Rosalyn Singleton, MD, Arctic Investigations Program, Centers for Disease Control, 4055 Tudor Centre Drive, Anchorage, AK 99508; phone (907) 729-3418; fax (907) 729-3429; e-mail *ris2@cdc.gov*.

Figure 1. Quarterly age-appropriate immunization rates from September 1990 to September 1999 in Anchorage children followed at Alaska Native Medical Center as printed from RPMS



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FOCUS ON ELDERS

Prevention and the Periodic Health Examination for Elders

Bruce Finke, MD, Director, Elder Care Initiative, and Staff Physician, Zuni-Ramah Service Unit, Zuni, New Mexico

The periodic preventive health outpatient visit plays an important role in health promotion and disease prevention. The best examples of this in current use are the Well Child and the Well Women exams. These visits form the cornerstone of preventive services for children and women. The periodic preventive visit for older individuals also has a clear role to play in providing quality, age-specific care.

Just as the Well Child and Well Woman exams are designed to accomplish specific functions, so the elder preventive visit must be tailored to fit the specific needs of the elderly patient. The comprehensive elder exam can fulfill a number of functions, not all evident at first glance. These include:

- Screening for impairment of function
- Screening for disease and geriatric syndromes (e.g., falls, incontinence)
- Screening for abuse, neglect, and exploitation

- Ensuring access to available services
- · Patient education and risk factor modification counseling
- Caregiver support
- Developing or updating the patient database
- Developing a sense of relationship and understanding with the patient and his/her family
- Data collection for public health interventions (through the RPMS system)

It is important to recognize that there is ample evidence that health promotion activities have a role in the prevention of disability and the maintenance of health and independence in old age.1 In addition, there is evidence to support a number of screening activities in older individuals with the goal of prolonging and improving the quality of life. The U.S. Preventive Services Task Force has issued a set of recommended, evidencebased preventive services for age 65 and older², as reviewed in

the January, 1999 IHS Primary Care Provider (Volume 24, Number 1, p 8).

The office-based comprehensive elder exam should serve as the periodic preventive visit for all older patients. In future articles we will review the key elements of this examination, discuss strategies for implementing it in a busy clinic, and examine patient selection ("How old is old?"). The periodic elder exam will be the cornerstone to preventive care for our elderly patients, ensuring that we and they are taking advantage of every available resource to help them maintain health and function. \Box

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- U.S. Preventive Services Task Force. Guide to Clinical Preventive Services, 2nd ed. Baltimore: Williams & Wilkins, 1996 2.

Among the planned presentations will be "Pediatric

Vulvovaginitis," "Noncontraceptive Benefits of Birth Control

MEETINGS OF INTEREST

Clinical Recognition and Management of Heart Disease with a Special Session on Cardiovascular Disease in Indian Health

January 19-21, 2000; Tucson, Arizona

This course, sponsored by the American College of Physicians - American Society of Internal Medicine, is designed to update primary care providers, particularly family physicians, internists, and emergency medicine providers, on the triage of patients with chest pain, the management of myocardial infarction, the intermediate coronary syndrome, ischemic heart disease, hypertension, hyperlipidemia, atrial fibrillation, and ventricular arrhythmias. Interventions in the primary and secondary prevention of heart disease will be presented. Heart disease in women will be reviewed, and there will be multiple electives on topics such as physical examination of the heart utilizing teaching mannequins, and chest radiographs. Dr. Barbara Howard, principle investigator for the Strong Heart Study, and Dr. James Galloway of the Native American Cardiology Program will provide insights into diabetes and heart disease as well as other issues in Native Americans related to cardiovascular disease. For more information or a registration form, please contact ACP-ASIM at (800) 523-1546, ext 2600 and request information on course code G01.

Midwinter OB/Peds Conference January 28-30, 2000; Telluride, Colorado

The Fifteenth Annual Midwinter OB/Peds Conference will be held in Telluride, Colorado, January 28-30, 2000. This conference will offer continuing education to providers interested in new developments in health care for women and children.

Pills," "Navajo Ceremonials and Rituals," and "New Medications for Management of the Menopause." The IHS Clinical Support Center is the accredited sponsor; the CSC is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing education for physicians. For more information contact Alan Waxman, MD at (505) 722-1000 or Diana Hu, MD at (520) 283-2501. **Annual NAIHS Internist Meeting**

January 28-30, 2000; Telluride, Colorado

The Annual Navajo Area IHS Internists Meeting will be held in Telluride, Colorado, January 28-30, 2000. Featured topics will include resistant hypertension, Parkinson's disease, pacemakers, and anticoagulation, among others. For more information, contact Dr. Bruce Tempest at (505) 722-1000; e-mail btempest@gimc.ihs.gov.

The Next Millennium: The 2000 Meeting of the National Councils of the IHS

January 31-February-3, 2000; San Diego, California

The National Councils (Clinical Directors, Service Unit Directors, Chief Medical Officers, and Nurse Consultants) of the Indian Health Service will hold their 2000 annual meeting January 31-February 3, 2000 in San Diego, California. An exciting and informative program is planned to address Indian Health Service/Tribal/Urban program issues and offer solutions to common concerns throughout Indian country. Indian Health Program Chief Executive Officers and Clinico- administrators

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