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Implementing A New Case Management Tool: The Diabetes Patient Care Summary

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The Resource and Patient Management System (RPMS) is used at many facilities serving Native Americans. Despite the power of a system that links the pharmacy, lab, diagnostic test results, and outpatient clinical encounters, it is often underutilized by providers as a tool for case management.

The utility of a flowsheet documenting annual follow-up needs and changes in certain parameters (such as lab results, blood pressure, or weight) over time has been well-established. Unfortunately, according to our chart audit results in Alaska, the paper diabetes flowsheet was infrequently used by primary care providers. Patients often had several different incomplete versions at different health care facilities. The Community Health Aide, the primary care physician, and the Diabetes Team consultants in Anchorage all possessed isolated pieces of information. There were difficulties in maintaining timely communication about exams and patient education that had been done, medication changes, and at times, lab tests or immunizations were performed unnecessarily because of the inadequate local data base.

The value of an “electronic flowsheet,” created using the RPMS, that would be automatically updated and that used shared data across facilities, was compelling.

A template existed in the standard RPMS package but it did not fit all of the identified needs of the Alaska team. In practice, this flowsheet often generated several pages of medication information and many blank spaces, as providers had not been trained in PCC documentation specifics. Using Alaska Native Medical Center (ANMC) as the alpha test site, the Alaska Area Diabetes Team pilot tested several formats of the flowsheet before arriving at the example seen in Figure 1. This flowsheet captures laboratory information only, with examinations, patient education, and other key data

documented on the Diabetes Patient Care Summary (Figure 2). Medications are listed on the Action Profile (APRO), as well as on the Adult Regular Health Summary. Of note, glucose values are excluded from the flowsheet in order to maintain a succinct summation of annual labs.

A template for the Diabetes Patient Care Summary (DPCS) also preexisted, but the Alaska team inserted several additional prompts. Incorporation of the DPCS into the Adult Regular Health Summary was a multidisciplinary effort. Stumbling blocks included the identification of the appropriate taxonomies for laboratory data, and coordination with Medical Records data entry personnel to ensure that provider documentation was in a standard language that could be encoded using RPMS mnemonics.

Cimarron Medical Informatics was contracted to coordinate the laboratory taxonomies statewide so that flowsheet information could be shared among facilities. The MultiFacility Integration (MFI) process in Alaska allowed for the automatic sharing of immunization, vital signs, demographic, and diagnoses data.

This project is one of many in Alaska benefiting from MFI. MFI is a module of RPMS that is used only in the Alaska Area. MFI creates a master patient index of all patients in the

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system. It also creates a state-wide database of encounters from all RPMS (and eventually, non-RPMS) sites in the Area. MFI automatically sends copies of encounters for a patient at one facility to all other facilities that have a record for the same patient; these data are then incorporated into each local RPMS database and are available through all the standard data retrieval modules. When fully implemented in Alaska, it will include 7 hospitals, 5 physician health centers, 24 physician assistant/nurse practitioner health centers, 26 State of Alaska Public Health Nurse health centers (where most of our immunizations are given), and 180 Community Health Aide health centers. Of the one million patient encounters that occur each year, about 75% are now routinely available through MFI.

One of the issues uncovered by years of diabetes chart audits was the fact that diabetes was often not addressed during visits for other medical problems. We felt that it was important that the flowsheet and the DPCS be automatically generated at every patient encounter. There is no separate Diabetes Health Summary in use at our facility, nor special Diabetes PCC forms. The flowsheet and DPCS comprise the last two pages of the Adult Regular Health Summary for any patient who has diabetes on his or her active problem list.

Immunizations given in the villages by Community Health Aides or by itinerant providers were often documented on the local chart but not on a PCC form for RPMS entry. Even when PCC forms were sent to Medical Records from such field clinics, they were filed in charts but not entered electronically into the RPMS.

At our facility, medical records personnel varied in their knowledge of the coding possibilities for entries on the PCC. Health factors, historical information, and patient education elements were, at times, not entered even though they had been written in the record in the correct, standardized manner by medical providers.

Concurrently, and unaware of our efforts, another department modified the PCC form to assure that JCAHO (Joint Commission on Accreditation of Health Care Organizations) requirements for documentation of patient education were met, but they did so in a manner that made the information inaccessible to the medical records data entry personnel. Many departments had also developed specially designed PCC forms to suit clinician needs, but all such forms lacked certain elements, and altogether they made data entry an increasing challenge. All told, more than 40 different PCC forms are used at our facility.

Data entry has improved after a few training sessions were offered, but this remains an ongoing quality improvement project. The Diabetes Team felt that accuracy of medical records was critical to provider acceptance before an attempt was made to spread the documentation process.

It became apparent early in the process that there was a significant training need for health care providers. Many indicated that they had had little or no orientation to the PCC system. Lack of knowledge of simple documentation issues, such as how to add diabetes to the problem list, or how to

record special examinations, interfered with the accuracy of the Health Summary, as well as the DPCS.

At ANMC, most PCC forms contain checkboxes along the right margin for elements such as breast, rectal, and pelvic examinations. Checkboxes for certain special examinations (such as the Complete Diabetes Foot Exam) were added to the PCC, but still, information was missed when providers checked boxes but failed to initial them. Several options for documentation are being pursued. At ANMC, mammogram information is picked up from the Radiology Package, and Papanicolaou smears are entered into the electronic record when results are reported by laboratory, rather than on the day of the exam.

A workgroup was developed to standardize the logic used in the PCC system for all facilities using RPMS. It has been a stepwise process with some bumps along the way. For example, initially a diabetic eye examination was considered to have been completed only when a provider specifically documented the exam as "done" when a data entry mnemonic (EX 03) was entered. Unfortunately, providers viewed this as a dual documentation requirement, and resisted it. In an attempt to capture information in another manner, the diabetic eye examination field was linked to the eye clinic code number, but this had an unanticipated result: eye examinations were automatically documented in RPMS for any eye clinic appointment, even when, for example, "DNKA" (Did Not Keep Appointment) was entered as the Purpose of Visit! Logic that links the Diabetic Eye Examination to any eye clinic or eye provider code, excluding "DNKA," "refraction only," and "conjunctivitis" encounters is the strategy currently in place. Ongoing challenges include capture of events (for example, laboratory tests, immunizations, examinations) at other facilities, such as private offices, Community Health

Figure 1. Alaska Area Diabetes Team Flow Sheet

----- FLOWSHEETS (max 1 year) -----						
DIABETIC ANMC FLOWSHEET						
	HbA1c	LIPIDS	URINE	BUN	LFTs	
01/12/00	:10.7 H	:	:	:UREA=45	:AST=11	
:	:	:	:	:H	:ALT=7	
:	:	:	:	:CREA=4.0	:	

06/21/99	:9.6 H	:CHO=246 H	:URINE PR=500	:UREA=34	:ALT=18	
:	:	:TRI=707 H	:H	:H	:AST=14	
:	:	:HDL=39	:	:CREA=2.8	:	
:	:	:LDL=canc	:	:H	:	

04/05/99	:	:	:URINE PR=500	:CREA=2.3	:AST=14	
:	:	:	:H	:H	:ALT=16	
:	:	:	:	:UREA=34	:	
:	:	:	:	:H	:	

03/24/99	:8.3 H	:	:	:CREA=2.4	:	
:	:	:	:	:H	:	
:	:	:	:	:UREA=36	:	
:	:	:	:	:H	:	

02/19/99	:	:	:	:CREA=2.7	:ALT=22	
:	:	:	:	:H	:	
:	:	:	:	:UREA=37	:	
:	:	:	:	:H	:	

02/10/99	:10.0 H	:	:	:CREA=2.5	:AST=16	
:	:	:	:	:H	:ALT=20	
:	:	:	:	:UREA=29	:	
:	:	:	:	:H	:	

Aide clinics (which often use the RPMS system, but whose encounters are often not data-entered by medical records), or tribal health clinics not using RPMS. There is need for revision of the "rectal exam" prompt to reflect current recommendations for colorectal cancer screening.

Documentation of historical information (e.g. updating records to include immunizations or examinations done at an outside facility) may be accomplished by writing in the lower right hand corner of the standard IHS PCC (under "Procedures/Exams/Patient Education") the appropriate mnemonic. For example an eye examination performed at a private facility could be documented as "HEX 03 <date>." A flu shot given in a community setting would be written as "HIM influenza <date>." Although the PCC Documentation Manuals indicate that historical information may be documented by writing the date done next to the appropriate checkbox, it was our experience that such information was often incorrectly entered as the date of the appointment, and not the historical date achieved.

Although the challenges at times have seemed daunting,

the DPCS has been worth the effort. The days of multiple, incomplete paper flowsheets are gone. The "foot exam I" documentation in Anchorage appears on the DPCS in any other hospital in Alaska that uses RPMS, and is accessible to Health Aides in the village community.

The laboratory flowsheet can be modified to suit individual site needs. The DPCS contains prompts for "next due" and suggestions to providers such as "consider microalbumin testing." The underutilization of ACE inhibitors, and aspirin for coronary artery disease prophylaxis were identified as issues in Alaska. The impact of the DPCS prompts for these medical interventions will be assessed with upcoming audits. The Diabetes Team has added specific items to the standard menu of Patient Education topics routinely coded into RPMS. A modular system of 18 patient education topics (such as Urinary Tract Infection prevention, or periodontal disease) has been created to standardize information taught. Each module begins with three stated objectives and ends with three follow-up questions to assess patient understanding, to measure the patient level of knowledge. These modules are compatible with multiple different patient education tools (pamphlets, videos, group classes) but offer continuity and uniformity of objective measurement of knowledge recall.

The DPCS is immediately useful in the primary care setting. The DPCS "no" entries can be highlighted with a yellow marker before the patient sees the medical provider. Standing order protocols may be set in place for immunization administration, laboratory test ordering, or specialty clinic referral by case managers, or indeed, anyone involved with the patient's care.

A Diabetes Management System (DMS), created by Cimarron Medical Informatics, is being pilot tested at multiple Alaskan sites. This case management system uses a preprogrammed set of reports to generate lists of patients overdue for the annual items indicated by the PCC. This proactive approach can create "to do" lists by primary care provider, village community, or for an entire facility's active patient registry.

The DMS also has the capability of abstracting audit information for individuals or cohorts of patients. It is hoped that this audit will replace at least portions of the current manual audit performed annually throughout IHS. The audit feature is currently in use in rapid cycle Quality Improvement initiatives.

For further information on the RPMS Diabetes Case Management System, the laboratory flowsheet, or the DPCS, contact Jane Kelly, MD, Alaska Area Diabetes Consultant at (907) 729-1126; or Bill Mason, Cimarron Medical Informatics, at (520) 615-0689. □

Figure 2. Diabetes Patient Care Summary

AGE: 37	Sex: M	Date of DM Onset: Jun 15, 1985 (Problem List)
DOB: Oct 05, 1962		
Last Height: 67 inches	Jan 14, 1998	
Last Weight: 267 lbs	Dec 08, 1999	BMI: 43.8
Tobacco Use: NO, DOES NOT USE TOBACCO		
HTN documented (Dx): Yes	ON ACE I or ARB: Yes	Dec 08, 1999
Aspirin Use (in past yr): Yes		
Last 3 BP: 147/83	Dec 08, 1999	
163/80	Sep 01, 1999	
162/86	Jul 12, 1999	
In past 12 months:		
Diabetic Foot Exam:	Yes	Jul 12, 1999 (Diabetic Foot Exam, Complete)
Diabetic Eye Exam:	Yes	Apr 26, 1999 (Diabetic Eye Exam)
Dental Exam:	Yes	Oct 15, 1999
Rectal Exam (age>40):	N/A	
(Females Only)		
Pap Smear:	N/A	
Breast exam:	N/A	
Last Mammogram:	N/A	
DM Education Provided (in past yr):		
DM MODULE 1	Oct 05, 1999	
DM-COMPLICATIONS	May 03, 1999	
DM-DIET	Jul 12, 1999	
Immunizations:		
Flu vaccine in past year:	Yes	Oct 22, 1999
Pneumovax ever:	Yes	Jan 06, 1997
Td in past 10 yrs:	Yes	Sep 26, 1993
Last PPD Reading:	0	Oct 16, 1998
Last TB Status Health Factor:		
Laboratory (most recent):		
EKG		Feb 19, 1999
Urine Protein:	500	Jun 21, 1999
Microalbuminuria:	canc	Jun 04, 1998
HbA1c:	10.7	Jan 12, 2000
Creatinine:	4.0	Jan 12, 2000
LDL Cholesterol:	canc	
Triglycerides:	707	Jun 21, 1999
DEMO PATIENT	DOB: 00/00/0000	Chart #ANMC 12345
*** END CONFIDENTIAL PATIENT INFORMATION -- FEB 2,200010:21 AM [ccm] *****		

Get an Edge on Managed Care

Managed care has revolutionized healthcare delivery and financing in the United States. While this revolution has created many benefits, it has further complicated an already complex industry. In 1997, the Academy for Healthcare Management was established to assist managed care professionals in enhancing their understanding and knowledge of the industry.

The Academy was formed as an educational partnership by the American Association of Health Plans (AAHP), the Blue Cross and Blue Shield Association (BCBSA) and the Life Office Management Association (LOMA). These organizations represent over 1,000 health plans that care for more than 200 million Americans. The Academy's mission is to improve the quality of healthcare through the education of industry professionals. The Academy's education program provides a comprehensive, cutting edge curriculum and a set of credentials that distinguish managed healthcare professionals.

Designed for any level of employee who works within managed care or with managed care organizations, this self-study program enables you to earn health care industry designations while gaining valuable knowledge about managed care. A curriculum panel, composed of senior executives from health plans and other managed care organizations, assists the Academy with the development of each course, which is updated on an as needed basis to ensure that it is both current and cutting edge.

Elmer Brewster, Health Sciences Administrator in the Indian Health Service (IHS) Division of Managed Care, recently received his Professional, Academy for Healthcare Management (PAHM) designation. "I thought the course [Course AHM250] was an excellent course. [It] provided a good foundation for managed care principles and a basis for further study . . .," Brewster said.

The Academy's curriculum offers two levels of study, the Introductory program and the Advanced program. The Introductory program, which consists of a single, self-study course and examination, provides graduates with a broad and cross-functional overview of managed health care delivery, administration, and operations. It covers basic concepts and types of managed care organizations plus a comprehensive spectrum of issues such as legislation, regulations, technology, quality improvement, marketing, and ethics. The program follows the evolution of the industry, focusing on all forms of managed care, including HMO, PPO, and POS products, and specialty carve-outs. Those who successfully complete the Introductory program receive the PAHM designation.

More than 10,000 people from over 500 organizations, including health plans, consulting firms, and government and military agencies, have enrolled in the Introductory program during the Academy's first two years of operation. Katy Ciacco

Palatianos, MD, MPH, Risk Management Consultant, IHS Office of Public Health, recently studied for the Introductory exam. "The AHM [250] is an important program which enables healthcare professionals to stay current [within the managed care industry]. I also believe that the Academy exam has brought camaraderie to the team at IHS. Through the formation of study groups, a team of providers and healthcare administrators can build irreplaceable, common knowledge for the entire staff. We have not found this type of program available to clinicians anywhere else in the healthcare industry."

While the Introductory program is useful for those new to the managed care industry, it is also valuable for seasoned healthcare professionals because the updated managed care information covers ever-changing issues dealing with operations, legislation, regulations and ethics. To date, almost half of the students who enrolled in the Introductory program have had six or more years of healthcare experience.

The Advanced program, a more in-depth study of managed healthcare, is available to those who have successfully completed the Introductory program. The Advanced program consists of a range of courses and exams on specific operational areas of managed healthcare. Through successful completion of all Advanced courses, you will earn the FAHM designation.

Currently, the Academy has three Advanced courses available and is continuing to develop additional Advanced courses in specific operational areas. Courses now available include:

- Managed Care Organizations: Governance and Regulation
- Health Plan Finance and Risk Management
- Network Management in Managed Care Organizations

Through joint sponsorship with the American Association of Health Plans (AAHP), [AHM 250-Managed Healthcare: An Introduction](#) and [AHM 530-Network Management in Managed Care Organizations](#), have been approved for Continuing Medical Education (CME) credits for physicians and for Continuing Education (CE) credits for nurses. For physician CME credits, the AAHP designates AHM 250 and AHM 530 for up to 30 hours each in category one credit toward the AMA Physician's Recognition Award. For nursing CE credits, the AAHP designates AHM 250 and AHM 530 for up to 36 contact hours each of continuing education in nursing credits. Individuals must pass the respective exams to earn CME or CE credit.

Both the Introductory and Advanced programs have easy-to-use self-study materials. This gives students the flexibility to manage their time and study the materials, and provides organizations with the materials to integrate into review programs or classroom-style training. A Test Preparation Guide, which

classroom-style training. A Test Preparation Guide, which features a detailed course outline, study tips and an interactive sample examination, also is available from the Academy.

Testing is administered in a paper-and-pencil format on two national test dates by Academy-sponsoring organizations nationwide. However, you also have the option to take computerized exams for an additional fee at a Sylvan Technology Center® located throughout the U.S. and Canada. This option provides you with flexibility and enables you to take the exam when and where it is convenient. Later this year, the Academy's new online enrollment and testing system will make it possible for organizations to administer examinations for students by computer at any time.

Harry Rosenzweig, Health Systems Specialist in the IHS Office of Public Health, felt that the Academy helped him to better understand how the industry affects his job. "We are both a provider of healthcare as well as a purchaser. Learning about managed care is helpful to both areas, [in particular regarding] negotiating contracts and helping to see that the care provided is quality care. From the provider standpoint, IHS has opportu-

nities to enter into negotiations where we provide care on a capitated basis. A lot of principles [from the program] would be useful in that way."

For more information about the Academy and its programs and benefits, visit the Academy's website at www.academy-forhealthcare.com. The site also features expanded information about the Advanced program, the availability of continuing education (CE) credits for professionals, and a sampling of organizations that participate in the educational programs.

Complete information can be found in the Academy's Program Information Guide, a booklet that describes the curriculum, explains the enrollment process and details the policies and procedures associated with taking the exams. For enrollment information and to receive a Program Information Guide, please contact the Academy For Healthcare Management, Office of the Registrar, 2300 Windy Ridge Parkway, Suite 600, Atlanta, GA 30339-8443; phone (800) 667-3133 or (770) 984-3700; fax (770) 984-6415. □

Native Health Research Database: A Health Planning, Evaluation, and Research Tool

Tom Kauley, Archivist, and Ruth C. T. Morris, MLS, Associate Director, University of New Mexico Health Sciences Center Library, Albuquerque, NM

The Indian Health Service (IHS) and the University of New Mexico (UNM) Health Sciences Center (HSC) have established a successful and enduring working partnership. Over the years, UNM HSC faculty and staff have worked closely with IHS staff located in Albuquerque, New Mexico to address the health needs of New Mexico's American Indian population. As the only academic health sciences center in New Mexico, the UNM HSC has developed a rich array of diverse American Indian programs. These programs include the Hispanic and Native American Center of Excellence (a program in the School of Medicine) and the New Mexico Tumor Registry Program, a Surveillance, Epidemiology and End Results (SEER) Program registry that has compiled cancer-related data on the American Indian populations in New Mexico and Arizona since 1969. A listing of major American Indian programs at the UNM HSC may be found on their website at <http://hsc.unm.edu/>, under the heading "New Mexico Health."

The nation's American Indian and Alaska Native (AI/AN) population has unique demographic characteristics, which imply distinctive healthcare needs for the population and for the healthcare providers who serve them. To address these unique healthcare needs, over the last six years, the UNM Health Sciences Center Library (HSCL) has created two innovative databases: the Native Health Research Database (<http://unm.hsc.edu/nhrd/>) and the Native Health History Database (<http://unm.hsc.edu/nhhd/>) to serve as resources for the AI/AN community and the healthcare providers and agencies serving them. These databases improve access to historical information focused on AI/AN health as well as up-to-date publications from the IHS and other Federal agencies, and linkages to Medline citations. The availability of over 6,000 documents spanning more than 200 years provides an unparalleled, content-rich information resource on health and disease among American Indians.

The Native Health History Database (NHHD), created with funding from the National Library of Medicine, provides indexing and abstracting of more than 3,200 health-related documents published from 1672 to 1965. This database and its related archival collection includes field reports produced by

government officials stationed in historic Indian Territory, as well as articles published in early medical journals.

The Native Health Research Database (NHRD) was created as a partnership venture between the UNM HSCL and the IHS. The database provides bibliographic information and abstracts of health-related articles and resource documents developed primarily by IHS staff, tribal health professionals, and health care practitioners working in American Indian reservations, Alaska Native villages, and urban areas with significant AI/AN populations. NHRD entries cover a time period from approximately 1966 to the present. End users may conduct text word (e.g., "diabetes") or data field specific (e.g., "tribe = 'Navajo'") searches to produce tailored information results. The NHRD features many on-line, full-text documents and direct links to reputable American Indian and general health and wellness websites. The NHRD also provides an on-line, automated document ordering feature.

Tribal health personnel and primary care providers are encouraged to access database information and related

document delivery services to support and promote development of successful AI/AN health and wellness programs. The database services may also be used to assist tribes and organizations in developing timely and successful grant proposals, and to support community-focused AI/AN health research efforts.

Future plans to guide the ongoing development of the databases include the establishment of a National Native Users Workgroup. Ongoing workgroup consultation and tribal community partnerships will provide mechanisms to evaluate UNM HSCL efforts to address the health information needs and requirements identified by American Indian communities. Offering the databases as core resources allows the Library to play a vital role in establishing and supporting tribal community health partnerships in the new millennium. To obtain additional information about the NHRD and NHHD, contact Ruth Morris at (505) 272-3857; or e-mail rmorris@salud.unm.edu. □

NCME Videotapes Available □

Health care professionals employed by Indian health programs may borrow videotapes produced by the Network for Continuing Medical Education (NCME) by contacting the IHS Clinical Support Center, Two Renaissance Square, Suite 780, 40 North Central Avenue, Phoenix, Arizona 85004.

These tapes offer Category 1 or Category 2 credit towards the AMA Physician's Recognition Award. These CME credits can be earned by viewing the tape(s) and submitting the appropriate documentation directly to the NCME.

To increase awareness of this service, new tapes are listed in THE IHS PROVIDER on a regular basis.

NCME #761

Expert Perspectives on Contemporary Clinical Issues in Hepatitis C - Part Two (60 minutes)

Important lessons regarding relapse and its prevention and treatment were learned from managing chronic hepatitis C virus (HCV) infections with monotherapy. It now appears that some of these lessons may be applicable with combination therapy. In addition, many clinicians and investigators now question whether other populations, such as interferon nonresponders, might also benefit from combination therapy. In part two of this two-part series, you'll learn about state-of-the-art management strategies for relapsers and nonresponders. The important role of the primary care physician in managing hepatitis C is also examined.

NCME #762

Otitis Media in Children: When Parents Ask for Antibiotics (60 minutes)

Little Johnny is brought into your office with a typical case of otitis media. His mother strongly requests you give him something. Yet, about two-thirds of children get better without antibiotic therapy. Is the antibiotic really necessary? When are they most useful? In this program, Dr. Irons sorts out the pertinent information regarding the diagnosis and treatment of otitis media in children, particularly as it relates to the proper use of antibiotic therapy. With this careful overview, physicians will be able to effectively manage the Kleenex kids in their practices, meeting the needs of both the patients and their parents.



NATIVE AMERICAN MEDICAL LITERATURE □

The following is an updated MEDLINE search on Native American medical literature. This computer search is published regularly as a service to our readers, so that you can be aware of what is being published about the health and health care of American Indians and Alaska Natives.

The Clinical Support Center cannot furnish the articles listed in this section of THE PROVIDER. For those of you who may wish to obtain a copy of a specific article, this can be facilitated by giving the librarian nearest you the unique identifying number (UI number), found at the end of each cited article.

If your facility lacks a library or librarian, try calling your nearest university library, the nearest state medical association, or the National Library of Medicine (1-800-272-47887) to obtain information on how to access journal literature within your region. Bear in mind that most local library networks function on the basis of reciprocity and, if you do not have a library at your facility, you may be charged for services provided.

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