RPMS

Women's Health Technical Manual

June 1996
Version 2.0

Indian Health Service
Alaska Native Medical Center
Computer Information Systems
Anchorage, Alaska

PREFACE

This is the Technical Manual for the RPMS Women's Health software module. It's purpose is to provide additional useful information to computer personnel regarding function and operation of the Women's Health software. The Technical Manual is intended for use by knowledgeable computer personnel and not the typical end user.

Michael Remillard, DDS
1 June 1996

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Introduction

The Indian Health Service (IHS) Resource and Patient Management System (RPMS) Women's Health Software development effort began in 1993 with a national team of Indian Health Service program people. Using feedback from staff in the field regarding the earlier PAP Tracking software, the team collaborated on new design requirements for software to be used in tracking women receiving PAP Smears and Colposcopies. Over time, the scope of the software broadened to include a full range of breast and cervical cancer screening and tracking functions. Version 1.0 of the software was released in July of 1995. Features of the software include the printing of customizable form letters, the ability to track patients' breast and cervical treatment needs and due dates, and an array of patient management reports and epidemiological reports.

Version 2.0 enhancements of the Women's Health Software include the ability to download procedure results from Corning Clinical laboratories, the ability to export Minimum Data Elements for transmission to the Center for Disease Control, and links to IHS Radiology and the IHS Patient Care Component modules of the RPMS.

Function Description

Main Features

Patient Management and Management Reports

The RPMS Women's Health Software functions in two main areas: Patient Management and Management Reports.

> **Patient Management** is the portion of the software used to manage individual patients, their procedures, due dates and correspondence. Under the Patient Management menu it is possible to maintain patient data such as the date of the patient's next PAP smear or colposcopy or mammogram, patient's pregnancy and her EDC, as well as the patient's current PAP Regimen. It is also possible to track the patient's individual procedures: the date performed, the provider and clinic, the results or diagnosis, etc. Notifications (letters and phone calls) may also be tracked. This is also the section where CDC-funded sites complete CDC required data such as: Diagnostic Workup, Final Diagnosis of PAP/Colposcopy, Status of Treatment, etc. A file of form letters has been included in the software which allows the letters to be edited and personalized for a clinic's particular needs. Reminder letters can be queued months in advance of an appointment, to be printed and mailed out shortly before the appointment.

> **Management Reports** is the portion of the software used to print epidemiological reports such as the number of women who received a mammogram for the selected time period, or the number of patients having abnormal PAP results during a selected time period. Under Management Reports it is possible to produce lists of patients who are past their due dates for follow-up procedures. It is also possible to store program statistics by date for later comparison of program trends and progress.

Patients, Procedures, and Notifications

In the RPMS Women's Health Software there are three basic data elements: Patients, Procedures, and Notifications.

Patients refer to the women in the program register. Data stored under each patient includes demographic data, the patient's Case Manager, the patient's current or next PAP treatment need and its due date, the patient's PAP regimen and the date it began, the patient's current or next Mammogram treatment need and its due date, and other data. This type of data is referred to as the patient's Case Data.

Procedures refer to any of the Procedures tracked by the software. The table of Procedure Types includes PAP smear, colposcopy, mammogram, LEEP, cone biopsy, ECC, and others. The results or diagnosis associated with these procedures are chosen from a table of Bethesda-consistent terminology.

Notifications refer to any type of communication or correspondence with the patient, such as first, second and third letters, certified letters, phone calls, messages left, etc. Notifications which take the form of letters fall into two categories: *Results* letters and *Reminder* letters. *Results* letters inform the patient of the results of a recent procedure and are queued to print immediately. *Reminder* letters inform the patient of the need to schedule her next appointment and are queued to print at some time several weeks or months in the future.

The group of reports that look for the due dates of Patients' Treatment Needs, of Procedures, and of Notifications provide a comprehensive mechanism for guarding against losing patients to follow-up.

Case Managers and the Program Manager

Every patient that is entered into the RPMS Women's Health database (or "register") is assigned a Case Manager. A **Case Manager** is a user of the RPMS Women's Health who is responsible for managing patients. This includes treatment planning, tracking of procedures, editing patient data, selecting appropriate letters, scanning for delinquent needs, and more. A small clinic using RPMS Women's Health may have only one Case Manager. Larger clinics and hospitals may have several.

The **Program Manager** is the person chiefly responsible for the setup and operation of the RPMS Women's Health at a given site. This person works with the computer site manager on the technical aspects of the software and performs maintenance tasks that require a more detailed understanding of the software than is required of Case Managers. At small sites, the Program Manager may also be the only Case Manager. (This individual is assigned the BWZ MANAGER key by the site manager.)
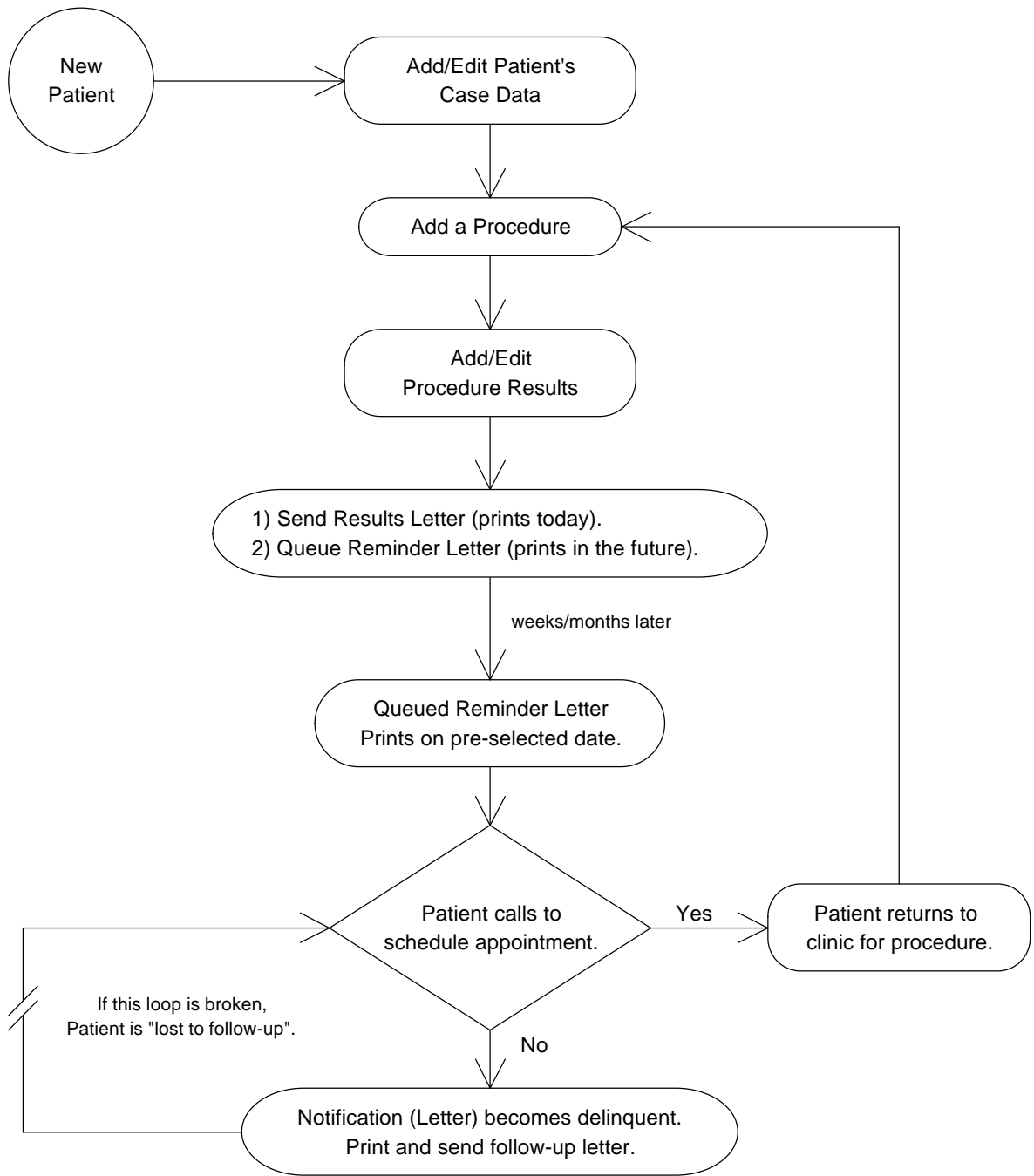
The Basic Patient Management Loop

The function of the RPMS Women's Health Software is best understood in terms of the **Basic Patient Management Loop** (please refer to the flowchart on the following page). The loop is a sequence of events that occur over and over again during a patient's life.

This software uses the concept of Procedures and Notifications being *open* and *closed*. Procedures and Notifications will become delinquent if they are not *closed* by the "Complete by (Date)" field found in the Notification and Procedure screens. If a Procedure or Notification is not *closed* by its due date, this will be an indicator that the patient may be "lost" to follow-up. Generally, a Procedure is closed when the results or diagnosis for that Procedure are entered; a Notification is closed either at the time it is printed (as in the case of a *results* letter) or when the patient returns for her next appointment (as in the case of a *reminder* letter).

An example of the Basic Patient Management Loop would be the following: A new patient presents to the clinic for care. The patient's Case Data (PAP and MAM treatment needs, EDC, etc.) are entered into the RPMS Women's Health program. Next, some Procedure is performed (such as a PAP smear). The Procedure is entered into the computer, an accession number is assigned to the procedure, and the specimen is sent to a lab for diagnosis. After a period of days, results are returned from a lab and entered for the Procedure and this Procedure is then *closed*. At that time, one and possibly two separate Notification letters are selected from the Purpose of Notification file: the first letter, a *results* letter, informs the patient of the results of the procedure. This letter is printed immediately. The second letter, a *reminder* letter, will advise the patient to call the clinic in order to schedule her next appointment. This second letter is queued to print one year later (assuming the PAP was normal). One year later, in response to the *reminder* letter, the patient calls to schedule her next appointment. When she returns to the clinic for her next Procedure, the Patient Management Loop begins again: procedure... results...*results* letter & *reminder* letter...call for an appointment...procedure. When the patient returns for a Procedure, it is important to *close* the *reminder* letter that prompted her appointment; otherwise, the *reminder* letter will be left *open* and begin to show up as delinquent on the past due reports.

Basic Patient Management Loop

New Patient → Add/Edit Patient's Case Data

Add a Procedure

Add/Edit Procedure Results

1) Send Results Letter (prints today).
2) Queue Reminder Letter (prints in the future).

weeks/months later

Queued Reminder Letter Prints on pre-selected date.

Patient calls to schedule appointment.

Yes → Patient returns to clinic for procedure.

No

If this loop is broken, Patient is "lost to follow-up".

Notification (Letter) becomes delinquent. Print and send follow-up letter.

As noted earlier, the group of reports that look for the due dates of Patients' Treatment Needs, of Procedures, and of Notifications provide a comprehensive mechanism for guarding against losing patients to follow-up. The three sets of "due dates" are as follows:

1) **Treatment Need Due Dates**

Stored as part of each patient's Case Data are Breast Treatment Needs and Cervical Treatment Needs. These needs are chosen from a table and given a due date, such as, "Routine PAP (by 7/1/95)". The RPMS Women's Health software offers a report that will display/print all of the patients with Treatment Needs past due.

2) **Procedure Complete by Dates**

A "Complete by Date" is stored as part of each Procedure a patient receives. When a Procedure is first entered, it receives a status of "OPEN". When the results of the Procedure are returned and entered, the status is generally changed to "CLOSED".

If a Procedure's status remains "OPEN" after its "Complete by Date", the Procedure will begin to display on reports that look for Procedures that are past due.

3) **Notification Complete by Dates**

A "Complete by Date" is stored as part of each Notification a patient receives. When a Notification is first entered, it receives a status of "OPEN". If the Notification is a *Results* letter (to be printed immediately) or a phone call, it is generally given an outcome and a status of "CLOSED". If the Notification is a *Reminder* letter, it's status is left "OPEN" until the patient's next procedure is entered. If a Notification's status remains "OPEN" after its "Complete by Date", the Notification will begin to display on reports that look for Notifications that are past due.

Summary

In summary, the RPMS Women's Health is largely a patient management tool for tracking the breast and cervical treatment needs of women, the procedures they receive, and the communications between healthcare staff and women regarding their treatment and follow-up. The software also provides some program-wide epidemiological reports which may be of use to clinicians and program administrators. This second aspect of the software will be further developed in future versions.

Technical Overview

Namespace Conventions

The namespace assigned to the RPMS Women's Health package is **BW**.
The numberspace is 9002086-9002086.99.

Key Variables

BWACCN	Accession Number
BWBEGDT	Begin date of a date range
BWCHRT	Chart#
BWCMGR	Case Manager
BWCNEED	Cervical Tx Need
BWDIAG	Result/diagnosis
BWDFN	DFN of Patient in ^DPT and ^BWP
BWENDDT	End date of a date range
BWIEN	IEN of an Entry
BWMBNEED	Breast Tx Need
BWNAME	Patient Name
BWPAGE	Page count
BWPAPRG	PAP Regimen
BWPRIO	Priority
BWPCDN	IEN of Procedure Type Name
BWPN	Procedure Type Name
BWPROV	Provider
BWRES	IEN of Results/Diagnosis
BWSSN	Social Security Number
BWSTAT	Status of a Procedure
BWTITLE	Text of Title

Note: The above are only a few of the more commonly used variables in the package.
No BW-namespaced variable can be assumed to be present in the local symbol table at all
times.

Resource Requirements

The size of the table files that come with the package are insignificant. Data storage for the package is very roughly 2 megabytes per 1000 patients per year, without storing the lab results text. There is no good data yet on how much storage is required for storing the lab results text.

The CDC Export function, which builds fixed length ASCII text records, sets global nodes in excess of 300 characters in length. If the site is exporting data to CDC, the site manager should ensure that the maximum global data length is 400 characters or greater. (In Micronetics Standard M this is done in Manager's UCI, D ^DBMAINT, Edit Volume Group Characteristics, return down to Maximum Global Data Length and set to 511.)

External/Internal Relations

Minimums of FileMan Version 21 and Kernel Version 7.1 are required to run this package.

SACC Exemptions/Non-Standard Code

There are no IHS SACC exemptions in this package. All code is ANSI M Standard.

Package Security

Security Keys

BWZMENU	Security Key to the Main Menu.
BWZ MANAGER	Manager's Key to Manager's Functions Menu.
BWZ LAB PCD EDIT	Lab Manager's Key to allow entry of "Error/disregard" in Procedure Results/Diagnosis field. (See installation notes).

Legal Requirements

There are no legal requirements connected with the RPMS Women's Health package.

Fileman Access Codes

All users of the RPMS Women's Health software should have a "MW" as part of their Fileman Access Code.

Routines

Routines to Map

For those sites where routine mapping is applicable, all BW* routines should be mapped.

Routine List With Descriptions

Below is a list of routines associated with the RPMS Women's Health package including pre- and post- init routines.

```
BWBRDUP ;IHS/ANMC/MWR - BROWSE DUPLICATE PROCEDURES;
        CALLED BY OPTION: "BW BROWSE PROCEDURES DUPLICATE" TO IDENTIFY,
        LIST AND BROWSE POSSIBLE DUPLICATE PROCEDURES.

BWBRMDE ;IHS/ANMC/MWR - BROWSE PROCEDURES FOR CDC MDE'S
        CALLED BY OPTION: "BW CDC BROWSE PROCEDURES NO DX" TO
        LIST AND BROWSE PROCEDURES WITH INCOMPLETE DX WORKUP.

BWBRNED ;IHS/ANMC/MWR - BROWSE TX NEEDS PAST DUE; [ 04/12/96  4:28 PM ]
        CALLED BY OPTION: "BW BROWSE NEEDS PAST DUE" TO BROWSE AND
        EDIT PATIENTS WITH TREATMENT NEEDS PAST DUE.

BWBRNED1 ;IHS/ANMC/MWR - BROWSE TX NEEDS PAST DUE; [ 03/13/96  10:35 AM ]
        DISPLAY CODE FOR BROWSING TX NEEDS.  CALLED BY BWBRNED.

BWBRNEDH ;IHS/ANMC/MWR - BROWSE TX NEEDS PAST DUE;
        HELP TEXT FOR SELECTING CRITERIA WHEN BROWSING TX NEEDS.
        CALLED BY BWBRNED.

BWBRNOT ;IHS/ANMC/MWR - BROWSE NOTIFICATIONS;
        CALLED BY OPTION: "BW BROWSE NOTIFICATIONS" TO BROWSE AND EDIT
        NOTIFICATIONS.

BWBRNOT1 ;IHS/ANMC/MWR - BROWSE NOTIFICATIONS; [ 03/13/96  10:35 AM ]
        DISPLAY CODE FOR BROWSING NOTIFICATIONS.  CALLED BY BWBRNOT.

BWBRNOT2 ;IHS/ANMC/MWR - BROWSE NOTIFICATIONS; [ 04/14/96  3:56 PM ]
        PROMPTS FOR SELECTION CRITERIA WHEN BROWSING NOTIFICATIONS.
        CALLED BY BWBRNOT.
```

BWBRPCD ;IHS/ANMC/MWR - BROWSE PROCEDURES;
          CALLED BY OPTION: "BW BROWSE PROCEDURES" TO BROWSE AND EDIT
          PROCEDURES.

BWBRPCD1 ;IHS/ANMC/MWR - BROWSE PROCEDURES; [03/13/96 10:36 AM]
          DISPLAY CODE FOR BROWSING PROCEDURES. CALLED BY BRBRPCD.

BWBRPCD2 ;IHS/ANMC/MWR - BROWSE PROCEDURES;
          PROPTS FOR SELECTION CRITERIA IN BROWSING PROCEDURES.
          CALLED BY BWBRPCD.

BWBRPCD3 ;IHS/ANMC/MWR - BROWSE PROCEDURES;
          HELP PROMPTS FOR BROWSING PROCEDURES. CALLED BY BRBRPCD.

BWCDC ;IHS/ANMC/MWR - INITIAL LOAD OF CDC IDS & FLAGS
          FOR FIRST TIME INSTALL OF V 2.0 AT SITES THAT WILL EXPORT TO CDC.
          ASSIGNS UNIQUE PATIENT IDS, FLAGS ALL PAST APPROPRIATE PROCEDURES.

BWCMGR ;IHS/ANMC/MWR - ADD/EDIT CASE MANAGER; [04/09/96 10:29 AM]
          CALLED BY OPTION: "BW ADD/EDIT CASE MANAGERS" TO ADD AND EDIT
          CASE MANAGERS.

BWDIAG ;IHS/ANMC/MWR - PRINTOUT OF BW DIAGNOSIS FILE;
          CALLED BY OPTION: "BW PRINT RES/DIAG FILE" TO PRINT THE
          RESULTS/DIAGNOSIS TABLE FILE.

BWDIAGS ;IHS/ANMC/MWR - RES/DIAG SYNONYM ADD/EDIT/PRINT
          ADD/EDIT/PRINT/PURGE SYNONYMS FOR BW RESULTS/DIAGNOSIS FILE.

BWFACE ;IHS/ANMC/MWR - PRINT A FACE SHEET (FROM REG.); [04/05/96 7:38 PM]
          DISPLAY/PRINT A FACE SHEET, FROM IHS REGISTRATION.

BWFMAN ;IHS/ANMC/MWR - FILEMAN CALLS
          CALLS TO FILEMAN WITH PRE- AND POST-CALL VARIABLE SETTING.

BWGETALL ;IHS/ANMC/MWR - AUTOLOAD FEMALE PATIENTS [04/16/96 2:56 PM]
          AUTOMATICALLY LOADS WOMENS PATIENTS FROM THE MAIN PATIENT FILE,
          LIMITED BY AGE AND CURRENT COMMUNITY.

BWLAB ;IHS/ANMC/MWR - ADD/EDIT PROCEDURE BY LAB STAFF;
          CALLED BY OPTION: "BW LAB ADD A NEW PROCEDURE" TO ACCESSION
          PROCEDURES.

BWLABLG ;IHS/ANMC/MWR - DISPLAY LAB LOG;
          CALLED BY OPTION: "BW LAB PRINT LOG" TO PRINT THE "LOG" OF
          OF PROCEDURES THAT HAVE BEEN ENTERED ("ACCESSIONED").

BWLABLG1 ;IHS/ANMC/MWR - DISPLAY LAB LOG;
          DISPLAY CODE FOR LAB LOG. CALLED BY BWLABLG.

BWLABLG2 ;IHS/ANMC/MWR - DISPLAY LAB LOG;
          HELP PROMPTS FOR DISPLAYING LAB LOG. CALLED BY BWLABLG.

BWLETDQ ;IHS/ANMC/MWR - PRINT QUEUED LETTERS;
          CALLED BY OPTION: "BW PRINT QUEUED LETTERS" TO PRINT LETTERS
          BY "APRT" XREF IN ^BWNOT("APRT".

BWLETPR ;IHS/ANMC/MWR - BW PRINT LETTERS.
          CALLED BY OPTION: "BW PRINT INDIVIDUAL LETTERS" TO PRINT A
          LETTER FOR A SINGLE INDIVIDUAL (AS OPPOSED TO ALL THOSE QUEUED).

BWLOGO ;IHS/ANMC/MWR - DISPLAY LOGO WHEN ENTERING PKG;
          DISPLAYS LOGO. GETS VERSION FROM LINE 2 OF THIS ROUTINE.

```
BWLOOP ;IHS/ANMC/MWR - UTILITY HARDCODED LOOPS. [ 04/16/96  2:57 PM ]
         PROGRAMMER UTILITY LOOP FOR TECHNICAL SUPPORT OF BW PATIENT
         OR PROCEDURE FILE.  NOT CALLED BY ANY OPTION.

BWMDE ;IHS/ANMC/MWR - EXPORT MDE'S FOR CDC. [ 04/16/96  3:03 PM ]
         CDC EXPORT, MAIN DRIVER FOR COLLECTION AND EXPORT OF DATA TO
         HOST FILE SERVER.

BWMDE1 ;IHS/ANMC/MWR - COMPILED MDE EXPORT ROUTINE. [ 04/16/96  3:01 PM ]
         CDC EXPORT, BUILDS ASCII FIXED LENGTH RECORDS FOR EXPORT.

BWMDE2 ;IHS/ANMC/MWR - MDE FUNCTIONS.   [ 04/16/96  3:02 PM ]
         CDC EXPORT, FUNCTIONS TO RETRIEVE DATA FOR INDIVIDUAL FIELDS
         FOR EXPORT.

BWMDE4 ;IHS/ANMC/MWR - EXPORT MDE'S FOR CDC. [ 04/09/96  2:18 PM ]
         CALLED BY BWMDE IN EXPORT DATA OF TO CDC.

BWMDE5 ;IHS/ANMC/MWR - AUTOEDIT OF DATE ENROLLED; [ 03/24/96  4:36 AM ]
         LOOP THROUGH BW PATIENT FILE, IF DATE ENROLLED IS NULL, STUFF
         DATE OF FIRST PROCEDURE OR DATE FUNDING BEGAN.

BWMGRP ;IHS/ANMC/MWR - MANAGER'S PATIENT EDITS ;
         CALLED BY DIFFERENT OPTIONS TO EDIT A PATIENT'S PAP REGIMEN LOG
         AND PREGNANCY LOG.

BWNOTIF ;IHS/ANMC/MWR - BW ADD/EDIT BW NOTIFICATIONS; [ 04/02/96  5:14 PM ]
         CALLED BY DIFFERENT OPTIONS TO ADD/EDIT NOTIFICATIONS.

BWNOTIF1 ;IHS/ANMC/MWR - BW ADD/EDIT BW NOTIFICATIONS;
         STUFFS A NORMAL LETTER FOR THIS PATIENT.  CALLED BY BWNOTIF.

BWOLD ;IHS/ANMC/MWR - CONVERT DATA FROM OLD PAP PKG;
         CONVERT OLD DATA TO NEW.  PROGRAMMER UTILITY, NOT CALLED
         FROM MENUS.

BWPATE ;IHS/ANMC/MWR -  PATIENT CASE DATA EDIT;
         CALLED BY OPTION: "BW EDIT PATIENT CASE DATA".

BWPATP ;IHS/ANMC/MWR - WOMEN'S HEALTH PCC LINK
         PRINT A PATIENT'S CASE DATA.

BWPCC ;IHS/ANMC/MWR - WOMEN'S HEALTH PCC LINK
         CREATE/EDIT A VISIT FILE ENTRY, CREATE A V FILE ENTRY.
         CALLED BY BWPROC1.

BWPCC1 ;IHS/ANMC/MWR - WOMEN'S HEALTH PCC LINK  [ 04/04/96  3:41 PM ]
         SUBROUTINES FOR BWPCC (CREATE/EDIT A VISIT & V FILE ENTRIES).
         CHECK ON PASSING A PROCEDURE.  CHECK ON PCC SET UP CORRECTLY.

BWPCC2 ;IHS/ANMC/MWR - WOMEN'S HEALTH PCC LINK [ 03/22/96  8:39 PM ]
         SELECT AND PRINT THE POINTERS OF WOMEN'S HEALTH PROCEDURES TO
         TABLE FILES: ICD OP/PROC, LAB TEST, EXAM, RADIOLOGY PROCEDURES.

BWPOST ;IHS/ANMC/MWR - POST-INIT ROUTINE
         POSTINIT ROUTINE TO EDIT SITE PARAMETERS, DELETE JUNK DATA,
         RESET ACC# COUNTERS, DISPLAY INFO REGARDING MENUS AND KEYS.

BWPOST1 ;IHS/ANMC/MWR - POST-INIT ROUTINE [ 03/13/96  11:37 AM ]
         POSTINIT SUBROUTINE: DISPLAYS TEXT.

BWPRE ;IHS/ANMC/MWR - PRE-INIT ROUTINE [ 03/22/96  8:18 PM ]
         PRE-INIT ROUTINE TO REMOVE PREVIOUS DATA DICTIONARIES IN THE
         9002086-9002086.9999 NUMBER SPACE.
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```
BWPROC ;IHS/ANMC/MWR - BW ADD/EDIT BW PROCEDURE; [ 04/02/96  5:02 PM ]
        CALLED BY VARIOUS OPTIONS TO ADD/EDIT PROCEDURES.

BWPROC1 ;IHS/ANMC/MWR - BW ADD/EDIT BW PROCEDURE; [ 04/12/96  4:32 PM ]
        EDIT A PROCEDURE, ALSO FOLLOW-UP SCREEN.  CALLED BY BWPROC.

BWPROF ;IHS/ANMC/MWR - DISPLAY PATIENT PROFILE;
        CALL ED BY OPTION: "BW PATIENT PROFILE" TO DISPLAY PROFILE.

BWPROF1 ;IHS/ANMC/MWR - DISPLAY PATIENT PROFILE; [ 03/13/96  10:35 AM ]
        SETUP AND EDIT CODE FOR DISPLAYING PATIENT PROFILE.
        CALLED BY BWPROF.

BWPROF2 ;IHS/ANMC/MWR - DISPLAY PATIENT PROFILE;
        RETRIEVE AND SORT PROCEDURES, NOTIFICATIONS, PAP REGIMENS,
        AND PREGNANCIES FOR PATIENT PROFILE.  CALLED BY BWPROF.

BWPROF3 ;IHS/ANMC/MWR - DISPLAY PATIENT PROFILE;
        DISPLAY CODE FOR PATIENT PROFILE.  CALLED BY BWPROF1.

BWPRPCD ;IHS/ANMC/MWR - BW PRINT A PROCEDURE;
        DISPLAY CODE FOR PRINTING PROCEDURES.  ENTRY POINTS FOR PRINTING
        INDIVIDUAL PROCEDURES AND ALL NEW PROCEDURES.

BWPURP ;IHS/ANMC/MWR - NOTIFICATION TABLES MAINTENANC; [ 04/04/96  3:48 PM ]
        ADD/EDIT/PRINT NOTIFICATION PURPOSE FILE ENTRIES, EDIT PCD DAYS,
        EDIT NOTIFICATION TYPE SYNONYMS, ADD/EDIT NOTIFICATION OUTCOMES.

BWRAD ;IHS/ANMC/MWR - UTIL: MOSTLY PATIENT DATA [ 03/13/96  10:56 AM ]
        EDIT BW MAMMOGRAM DIAG CODE TRANSLATIONS FILE.
        PRINT BW MAMMOGRAM DIAG CODE TRANSLATIONS FILE.

BWRPPCD ;IHS/ANMC/MWR - REPORT: PROCEDURES STATISTICS;
        CALLED BY OPTION: "BW PRINT PROCEDURE STATS".

BWRPPCD1 ;IHS/ANMC/MWR - REPORT: PROCEDURE STATISTICS;
        DISPLAY CODE FOR PROCEDURE STATISTICS REPORT.  CALLED BY BWRPPCD.

BWRPPCD2 ;IHS/ANMC/MWR - REPORT: PROCEDURES STATISTICS;
        COLLATING CODE CALLED BY BWRPPCD.

BWRPSCR ;IHS/ANMC/MWR - WOMEN'S HEALTH PCC LINK [ 04/12/96  4:32 PM ]
        THIS REPORT WILL DISPLAY SCREENING RATES FOR PAPS & MAMS.

BWRPSCR1 ;IHS/ANMC/MWR - WOMEN'S HEALTH PCC LINK
        THIS REPORT WILL DISPLAY SCREENING RATES FOR PAPS & MAMS.
        ENTRY POINTS CALLED BY BWRPSCR.

BWRPSNP ;IHS/ANMC/MWR - REPORT: SNAPSHOT OF PROGRAM
        CALLED BY OPTION: "BW PRINT SNAPSHOT" TO DISPLAY FROM 1/1 CURRENT
        YEAR TO PRESENT #PATIENTS, #PAPS, #MAMS, #DELINQUENT NEEDS, ETC.

BWRPSNP1 ;IHS/ANMC/MWR - REPORT: SNAPSHOT OF PROGRAM
        DISPLAY CODE FOR SNAPSHOT REPORT.  CALLED BY BWRPSNP.

BWRPSNPR ;IHS/ANMC/MWR - REPORT: RETRIEVE A SNAPSHOT;
        CALLED BY OPTION: "BW PRINT/RETRIEVE SNAPSHOT" TO DISPLAY A
        PREVIOUS SNAPSHOT.

BWSELECT ;IHS/ANMC/MWR - SELECT ENTRIES FROM A BWFILE ; [ 03/13/96  10:46 AM ]
        UTILITY TO PROMPT FOR MULTIPLE SELECTINS FROM A FILE AND STORE
        THEM IN A LOCAL ARRAY FOR SOBW BY CALLING PROGRAM.
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BWSITE ;IHS/ANMC/MWR - EDIT SITE PARAMETERS;
        CALLED BY OPTION: "BW EDIT SITE PARAMETERS".

BWUPDATE ;IHS/ANMC/MWR - POST-INIT ROUTINE  [ 03/22/96  8:18 PM ]
        CALLED BY BWPOST TO UPDATE TABLE FILES.

BWUPDISP ;IHS/ANMC/MWR - UPLOAD: UNMATCHED REPORTS;
        CALLED BY OPTION: "BW UPLD DISPLAY UNMATCHED" TO DISPLAY AND
        TRANSFER UNMATCHED LAB REPORTS.

BWUPLD ;IHS/ANMC/MWR - UPLOAD: UPLOAD LAB FILES; [ 04/14/96  4:03 PM ]
        CALLED BY OPTION: "BW UPLD LOAD LAB FILES" TO UPLOAD FROM HFS
        COMMERCIAL LAB ABBREVIATION TABLES AND RESULTS.

BWUPRNI ;IHS/ANMC/MWR - UPLOAD: RESULTS FROM CORNING; [ 04/14/96   4:04 PM ]
        CONVERTS NICHOL'S LAB RESULTS FROM FIXED TO VARIABLE, THEN FORMATS
        REPORTS AND PLACES THEM IN BW PROCEDURE FILE (WP) WITH PATIENTS.

BWUPRNI1 ;IHS/ANMC/MWR - UPLOAD: RESULTS FROM CORNING; [ 04/11/96   1:57 PM ]
        FORMATS TEXT OF RESULTS REPORT INTO LOCAL ARRAY.
        CALLED BY BWUPRNI.

BWUPTNI ;IHS/ANMC/MWR - UPLOAD: TABLE FROM CORNING; [ 04/14/96   4:04 PM ]
        CONVERT AND STORE NICHOL'S ABBREVIATIONS TABLE.
        CALLED BY BWUPLD.

BWUPTRAN ;IHS/ANMC/MWR - UPLOAD: TRANSFERS WP TEXT;
        TRANSFERS WP TEXT IN LOCAL ARRAY BW1 TO WP NODE OF PROCEDURE
        OR IN UNMATCHED LAB RESULTS FILE.  CALLED BY BWUPRNI.

BWUTL1 ;IHS/ANMC/MWR - UTIL: MOSTLY PATIENT DATA [ 04/08/96  4:43 PM ]
        UTILITY: PATIENT DEMOGRAPHICS, NEEDS, AND REGIMENS.
        ALSO DISPLAY PRIORITY, PROCEDURE TYPE.

BWUTL2 ;IHS/ANMC/MWR - UTIL: ZIS, XREF, PROSCREEN;   [ 03/13/96  10:57 AM ]
        UTILITY: ZIS, MUMPS XREFS ON NORMAL/ABNORMAL AND ON STATUS.
        PROCSCRN-SCREEN ON RESULT/DIAGNOSIS BASED ON PROCEDURE.

BWUTL3 ;IHS/ANMC/MWR - UTIL: DATE, LOCK, DIR, PATVARS;   [ 03/24/96  4:26 AM ]
        UTILITY: ASK DATE RANGE, LOCKS, DIR PROMPTS, STORE/DEL EDC,
        STORE PAP REGIMEN, PCDVARS & PATVARS.

BWUTL4 ;IHS/ANMC/MWR - UTIL: DATE DEFAULTS, OTH VALUES;
        UTILITY: DEFAULT "COMPLETE BY" DATES FOR NOTIFS AND PROCEDURES,
        STATUS TEXT, DIAG TEXT, NORMAL VALUE, COLP VALUE, MARGIN? VALUE.

BWUTL5 ;IHS/ANMC/MWR - UTIL: ACC#, TITLES, SL/TX DATES;
        UTILITY: SETVARS, GENERATE ACCESSION#, MENUT, TITLE, CENTERT,
        COPYLET, UPPERCASE XREF, CDC, SL/TX DATES.

BWUTL6 ;IHS/ANMC/MWR - UTIL: TEXT VALS, DEF PRINT DATE;
        UTILITY: TEXT FOR PROVIDER, PROCEDURE, HOSP LOC, INSTIT, & ECC.
        PROC SPECIAL VALUE (PAP, MAM, COLP).  COMPUTE DEFAULT PRINT DATE.

BWUTL7 ;IHS/ANMC/MWR - UTIL: HEADERS & TRAILERS;
        UTILITY: HEADERS AND TRAILERS.

BWUTL8 ;IHS/ANMC/MWR - UTIL: PATLKUP, SELECT, KILLALL; [ 04/09/96  10:27 AM ]
        UTILITY: PATIENT LOOKUP, SELECT FOR REPORT, KILLALL.
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File & Global List

```
File Number      File Name                             Global
-----------      ----------------------                ---------
9002086          BW PATIENT                            ^BWP(
9002086.01       BW CASE MANAGER                       ^BWMGR(
9002086.02       BW SITE PARAMETER                     ^BWSITE(
9002086.03       BW PAP REGIMEN                        ^BWPR(
9002086.04       BW PAP REGIMEN LOG                    ^BWPLOG(
9002086.05       BW PREGNANCY LOG                      ^BWEDC(
9002086.1        BW PROCEDURE                          ^BWPCD(
9002086.2        BW PROCEDURE TYPE                     ^BWPN(
9002086.31       BW RESULTS/DIAGNOSIS                  ^BWDIAG(
9002086.32       BW DIAGNOSTIC CODE TRANSLATION        ^BWRADX(
9002086.33       BW ERROR CODE                         ^BWERR(
9002086.4        BW NOTIFICATION                       ^BWNOT(
9002086.403      BW NOTIFICATIN TYPE                   ^BWNOTT(
9002086.404      BW NOTIFICATION PURPOSE               ^BWNOTP(
9002086.405      BW NOTIFICATION OUTCOME               ^BWNOTO(
9002086.5        BW CERVICAL TX NEED                   ^BWCUR(
9002086.51       BW BREAST TX NEED                     ^BWMAMT(
9002086.6        BW LETTER                             ^BWLET(
9002086.71       BW SNAPSHOT REPORTS                   ^BWSNAP(
9002086.72       BW AGE RANGE DEFAULT                  ^BWAGDF(
9002086.81       BW UPLD TABLE TEMP (CORNING)          ^BWTNI(
9002086.82       BW UPLD RESULTS TEMP (CORNING)        ^BWRNI(
9002086.85       BW UPLD TABLE FINAL (CORNING)         ^BWTFNI(
9002086.86       BW UPLD UNMATCHED LAB REPORTS         ^BWRUN(
9002086.91       BW CDC MDE DATA DEFINITION            ^BWMDE(
9002086.92       BW CDC EXPORT LOG                     ^BWEXP(
9002086.93       BW CDC CBE CATEGORIES                 ^BWCBE(
```

Description of Enhancements

1) Additional Procedures Types have been added for tracking purposes,
    including various types of mammograms, consults, and biopsies.

2) Several new fields and screens have been added for tracking MDE data
    for CDC. These fields appear on Page 2 of Procedure Edit screens only
    if the CDC Export parameter is turned on. Other site parameters have
    been added for configuring the MDE export to CDC.

3) An export utility for sending MDE data to CDC has been added. Records
    to be exported may be selected by Hospital Location, Health Care
    Facility, Current Community, and/or Provider. There is also a CDC
    Export Log utility which tracks and displays exports.

4) A utility has been added to automatically import Mammograms from IHS
    Radiology package. Included is the ability to edit and print a
    Diagnostic Code translation file, linking mammogram results from
    Radiology to Women's Health. This enables Radiology staff to meet
    requirements for mammogram follow-up, which include the printing of
    patient form letters, tracking abnormal results, logging breast
    treatment needs and due dates, etc.

5) A site parameter has been added which allows one to specify Type of
    Agency (IHS, VA, state), and several coding changes have been made to
    adapt software to the VA environment, based on this parameter.
    For example, the use and display of the IHS Chart# is replaced by
    Social Security Number throughout the software when Type of Agency
    is set to VA.

6) The ability to select for one or more Current Communities when
    browsing Treatment Needs Past Due has been added. This feature
    permits one to choose a date in the future--for example, the date
    of an upcoming field trip to a particular community--to list and
    plan for the patients who will be due for treatment in that community
    at the time of the field trip.

7) A utility has been added to allow automatic loading of female patients
    from main Patient Registration database into the Women's Health
    database, selectable by age and Current Community (for IHS sites).
    These patients can then be sent introductory letters offering them
    admittance into the site's breast/cervical screening program.

8) A utility has been added to upload PAP result data from Corning
    Clinical Laboratories (formerly Nichols Institute). The interface is
    specific to Corning; however, as HL7 emerges as a widely accepted
    standard for exchange of patient data it is anticipated that the
    interface will be converted to HL7 and available to all labs.
    Returned results are uploaded from the host file server and matched on
    Accession number and patient Chart# for IHS sites (SSN instead of
    Chart# for VA sites). Unmatched lab results are stored in a temporary
    holding file and may be linked to their proper procedures via a user-
    interactive utility.

9) An option has been added to the Procedure Followup Menu that allows
   scanning and closing of any Open Notifications for the patient being
   reviewed. This provides a convenient, one-stop point for closing up
   any Notifications relating to the patient whose case is being edited.

10) The options to Add Notification and Print Queued Letters have been
    enhanced to ensure that the patient is not deceased.
    For a deceased patient, instead of the queued letter printing, an
    explanation is printed stating that the patient is deceased, that the
    letter will not be printed, and that the notification has been closed
    and given an Outcome of "Patient Deceased".

11) The Procedure Statistics Report now allows the user to select one or
    more age ranges by which the report will be sorted and displayed.
    The age range(s) a user selects will be stored and presented as the
    default on subsequent runs. The Procedure Statistics Report also now
    allows the user to select one or more specific Procedure Types to be
    included in the report.

12) A PCC Link has been added. The site parameters allow options to be
    set for each Procedure Type. The parameters have also been
    "regionalized" to allow different settings for different sites
    operating in the same UCI. A PCC Link Management menu provides
    options for verifying and managing all aspects of the link.

13) A utility has been added which checks for possible duplicate
    procedures, in other words, two or more instances of the same
    procedure for a given patient on the same date. The utility includes
    a browse/edit mode for convenient cleanup.

14) Options have been added to permit adding and editing of synonyms for
    the Results/Diagnoses file, in order to facilitate quick retrieval
    from a long list of similar entries.

15) A Family History field has been added to the Patient Case Data section
    that allows recording of episodes of breast cancer in the patient's
    first and second degree relatives.

16) The printing of patient letters has been "Regionalized". In other
    words, if two or more sites are running the Women's Health program on
    the same computer, the "Print Queued Letters" option will NOT simply
    print all queued letters; it will only print queued letters that are
    associated with the user's Facility.

17) The Lab Data Entry Log has been "Regionalized" and now displays log
    data by Facility.

18) A Screening Rates report has been added for Screening Paps and
    Screening Mammograms. This report provides statistical data on the
    success rates of annual screening efforts. The user may specify
    date ranges; one, several or all communities; and age ranges of
    patients.

19) A utility has been added which allows all of one Case Manager's
    patients to be tranferred to another Case Manager. This utility is
    chiefly for use when there is a turnover in staff.

20) The Patient Lookup call has been completely rewritten to correct minor
    bugs and to add enhancements.

    If the patient being added is under 12 years of age, the program will
    inform the user and ask for confirmation before adding the patient.

    Lookup by a patient's CDC Unique ID# has been made explicit.
    A separate question offering lookup on the patient's CDC Unique ID#
    will only appear if the CDC Export site parameter has been set to YES.
    This will avoid confusion at sites not exporting to CDC.

    The "spacebar node" for patient lookup in the PATIENT Files (both IHS
    and VA) now gets read and set. This means that one can move from
    another package into Women's Health, using the spacebar at the
    "Select PATIENT" prompt, to bring up the same patient. The same is
    true in moving from Women's Health out to another package.
    For example, in moving from Women's Health Edit Case Data to the
    Scheduling package, a spacebar-return will bring up the same patient.

Installation Notes

```
--------------------------------------------------------------------------
 INSTALLATION NOTES:    INSTALLATION NOTES FOR WOMEN'S HEALTH
======================================================================
 PREFIX:    BW
 CURRENT VERSION:   2.0
======================================================================


 **** NOTE ***** NOTE **** NOTE **** NOTE **** NOTE **** NOTE **** NOTE *
 **********************************************************************
 *    READ THE ENTIRE NOTES FILE PRIOR TO ATTEMPTING ANY INSTALLATION !!!*
 **********************************************************************
 **** NOTE ***** NOTE **** NOTE **** NOTE **** NOTE **** NOTE **** NOTE *


 1.  GENERAL INFORMATION

        a)  Print all notes/readme files.

        b)  It is recommended that the terminal output during the
            installation be captured using an auxport printer
            attached to the terminal at which you are performing
            the software installation.  This will insure a printed
            audit trail if any problems should arise.

 2.  CONTENTS OF DISTRIBUTION

        a)  bw__0200.r  - Routines

        b)  bw__0200.n  - This file

        c)  bw__0200.g1 - Globals

        d)  bw__0200.g2 - Globals ONLY IF first time installation

 3.  REQUIREMENTS

        a)  Kernel v 7.1 or later

        b)  FileMan v 21

        c) Maximum partition size of 100K (see section 4.n below)

 4.  INSTALLATION INSTRUCTIONS

        In all UCI's running Women's Health:

        a)  Disable logins or ensure all users are off, or
            disable BWMENU.

        b)  Delete the routines BW*.
```

c) Do routine restore from the file bw__0200.r,
which should restore 190 routines.

d) Set your DUZ(0)="@" by entering S DUZ(0)="@" at the programmer
prompt, or log in and out of Fileman programmer mode by
entering D P^DI at the programmer prompt and simply pressing
RETURN to back out of it. This will ensure you have proper
file deletion permissions for the preinit. D ^BWINIT and
answer "YES" to all init questions. Time to complete the init
will be approximately 10 minutes.

e) Do global restore from the file bw__0200.g1,
which should restore 9 globals.

f) If any version of the Women's Health software has already been
in use and this is NOT a first time installation, SKIP THIS
STEP. IF THIS IS A FIRST TIME INSTALLATION, do global restore
from the file bw__0200.g2, which should restore 3 globals.

g) Run the routine BWUPDATE; At the programmer prompt enter
D ^BWUPDATE

h) Review the information presented in the postinit program.

i) Menus, Options, and Security Keys:

OPTIONS:

The main menu option for the Women's Health package is BWMENU.
At most sites this would be placed on AKMOCORE along with other
RPMS packages. For the sake of consistency from site to site,
it is recommended that the synonym "WH" (Women's Health) be
given to the main menu option BWMENU, however, this is not a
requirement. BWMENU allows access to every other option within
the package. (Keys: BWZMENU and BWZ MANAGER, see below.)

The option BW MENU-LAB DATA ENTRY is a submenu that may be
assigned to Lab personnel for the limited purpose of accessioning
PAP Smears (and other procedures). This option may be attached
to any other Kernel menu and need not be accessed via the main
menu, BWMENU. (Key: BWZ LAB PCD EDIT, see below.)

The option BW PATIENT PROFILE USER is an option for providers and
other users outside of the Women's Health program to display or
print the "Patient Profile" of a patient in the Women's Health
database. This option may be attached to any other Kernel menu
and need not be accessed via the main menu, BWMENU. This option
does not come with a key, nor do users need any particular
Fileman Access Code in order to use it.

NOTE: Be sure to select the option BW PATIENT PROFILE USER --
the "USER" is important, as this option does not permit users
to edit the data. Do NOT use the option BW PATIENT PROFILE
for this purpose.

```
                SECURITY:
                ---------
                All users given the BWMENU (or the BW MENU-LAB DATA ENTRY)
                options should be given File Manager Access Codes of "MW".

                The security key BWZMENU allows users to access the main menu
                of the RPMS Women's Health package, BWMENU.  All users who are
                to use the software for data entry, patient management,
                reports, etc. should be given this key.

                The security key BWZ MANAGER allows managers to access the
                "Manager's Functions" menu (BW MENU-MANAGER'S FUNCTIONS), which
                is a submenu of the main menu (BWMENU).  The Manager's Functions
                menu provides access to many sensitive functions and should
                only be given to the manager of the program.

                The security key BWZ LAB PCD EDIT is for sites where the Lab
                personnel (presumably not the same department as a Women's Health
                Program) are accessioning PAP Smears and other procedures for the
                Women's Health Program.  The Lab staff would receive the limited
                submenu, BW-MENU LAB DATA ENTRY (described above under OPTIONS).

                On the LAB DATA ENTRY menu there is an option that allows one
                to go back and edit a procedure, for example, a PAP entered in
                error.  Access to this option by the Lab Manager should be
                negotiated with the Women's Health program people.  The key
                BWZ LAB PCD EDIT gives the Lab Manager access to that option
                under the LAB DATA ENTRY menu.

                In order to avoid confusion, it is advisable to remove any of
                the old PAP Tracking Program options from the Kernel menus.
                These old options appear as "AMCP/C/PAP..." and might be found
                under the AMCHMENU and/or AMCHMAIN options.  Removal of the
                AMCP/C/PAP options is NOT necessary in order to run the new
                RPMS Women's Health software, it is only recommended.

        j)  Devices:
                This package makes extensive use of the VA Screen Manager,
                which requires that several of the cursor and screen handling
                fields of the Terminal Type file be present for any Device
                accessing the package.  It is recommended that any Device
                accessing this package be given a Terminal Type ("Subtype")
                of "C-VT100", since the standard VA Kernel distribution comes
                with all of the necessary codes re-loaded.  A user whose
                Terminal Type does not contain a complete set of screen
                handling codes will receive a message that ScreenMan cannot
                "load the form".

                Other Terminal Types may also be chosen, however, the screen
                handling codes for Cursor movements, "PF keys", "Erase Entire
                Page", etc., may need to be entered manually if they are not
                already present for the selected Terminal Type.

                If for some reason it is not practical to define Devices
                accessing the package with a Subtype of C-VT100, users of the
                package may be given a "DEFAULT TERMINAL TYPE FOR LM" in the
                NEW PERSON File #200 of C-VT100. (They will then be given a
                Terminal Type of C-VT100 regardless of which DEVICE they sign
```

on through.) It may also be necessary to set the field "ASK
DEVICE TYPE AT SIGN-ON" (again in file #200) equal to "ASK" in
order to get a user's Terminal Type to change to the C-VT100.

Initial difficulties with the screen handling codes for
ScreenMan are not specific to Women's Health; however, if
problems with the setup cannot be resolved, please contact
Area support staff or the programmer, Mike Remillard, for
further assistance.

k) If this is a FIRST TIME installation of Women's Health, and
if data from the old RPMS PAP Tracking package is to be copied
into the new Women's Health database, this can be accomplished
by running the routine BWOLD (at the programmer prompt enter
D ^BWOLD). WARNING: THIS ROUTINE SHOULD ONLY BE RUN ONCE.
This routine only copies data from the old database into the
new one. The old data is left unchanged in the global ^AMCH(86.
If problems or questions arise with this process, please
contact the developer, Mike Remillard, ANMC, at 907/257-1515.
The conversion can be done at a later time, however, care
should be taken not to enter PAPs or colposcopies into the new
Women's Health database that have already been entered in the
old PAP Tracking package.

l) Delete the init routines: D ^%RDEL and select for BWINI*.

m) From the programmer prompt, D ^BWSITE and review the site
parameters. In particular, be sure to look at page 2 and
answer the "CDC Export:" and "Import Mammograms" questions.

The Site Parameter screen may also be accessed from within the
Women's Health menus by selecting Manager's Functions from the
Main Menu, then File Maintenance from the Manager's Functions,
and finally Edit Site Parameters from the File Maintenance
menu.

n) It is recommended that users of this software have a maximum
partition size of 100k. A minimum partition size of 50k is
required and in some instances may not be sufficient.

o) Enable logins and/or BWMENU.

5. POINT OF CONTACT

    Michael Remillard, DDS, Alaska Native Medical Center, 907/257-1515

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