DEPARTMENT OF VETERANS AFFAIRS

Memorandum

Date: **August 31, 2001**

From: **Chief Consultant, Diagnostic Services SHG (115)**

Subj: **Workarounds for NOIS HWH -0801-41582**

To: **Blood Bank Supervisors (113)**

After an extensive investigation of a recent NOIS submission, the Blood Bank Modernization Team (BBM) determined that a workaround for the problem was necessary. Please review the information carefully and follow the directions below to prevent any potential patient-safety related issues caused by the VISTA Blood Bank v5.2 software. Below is an overview of the problem:

Problem:

The Blood Bank application contains FileMan lookups to the Function Field file #61.3 of SNOMED codes, which contains entries such as 'ANTI S' and 'ANTI s', where the uppercase S and the lowercase s are clinically significant. Due to the logic used during FileMan lookups, if a user intends to select "ANTI s", but enters "ANti s" or "Anti s", FileMan incorrectly retrieves "ANTI S" and its corresponding SNOMED code.
In this situation where the lowercase antibody is not entered exactly as it is defined in the Function Field file #61.3, the uppercase version of the entered text is automatically returned. In some cases, the Blood Banker may not observe the discrepancy and could continue without correcting it.

The antibodies affected by this would be limited to those in the Function Field file #61.3 that are identical in name except for case. This would include:

ANTI C
ANTI c
ANTI E
ANTI e
ANTI K
ANTI k
ANTI I
ANTI i
ANTI S
ANTI s

This problem has been identified in several options in the Blood Bank v5.2 software and the development team continues to research other options that could potentially have the same problem. The options identified so far are listed as follows in **bold** font.

P   Blood bank patient …

PR   Previous Records
ET   Enter test data

S   Supervisor …
   EF   Edit blood bank files …
      AA   Edit Corresponding Antigen/Antibody

Example 1:

Previous Records option.

```
Select Blood bank patient Option: PR  Previous records


          Blood bank patient data from old records

Select Patient Name: SMITH,PATIENT   SMITH,PATIENT Y.        10-
19-15    11113583
6     YES     SC VETERAN
SMITH,PATIENT Y. ID: 111-13-5836 Physician: MURCH,CLAUDETTE Y

ABO group: O  Rh type: POS
AGE: 85  DATE OF BIRTH: OCT 19,1915
PATIENT LOCATION: DBB//   DALLAS BLOOD BANK


Select ANTIBODIES IDENTIFIED: Anti s    52310  ANTI S
  ANTIBODIES IDENTIFIED COMMENT:
Select ANTIBODIES IDENTIFIED: Anti e
     1   ANTI E    52030  ANTI E
     2   ANTI E(w)    52110  ANTI E(w)
```

Note that when **Anti s** was entered at the Select ANTIBODIES IDENTIFIED: prompt the system returned the incorrect antibody and corresponding SNOMED code of 52310 ANTI S. This happens when FileMan converts the user input of Anti s to ANTI S since an exact nor a partial match was never found for the original user input.

When **Anti e** was entered, the system does not find a match to the user input either. However, it does find matches to the input after it is converted to upper case, by FileMan, and displays a list to the user for selection. The list does not include the correct antibody with the lower case e since an exact nor partial match was made against the user input. This example is comparable to the other options where the problem has been identified.

Example 2:

Enter test data option

```
Select Blood bank patient Option: ET   Enter test data


      Division: Dallas CIOFO
Accession Area: BLOOD BANK

BLOOD BANK Patient data entry for Aug 29, 2001 ? YES//    (YES)
Enter TEST COMMENT(s) ? NO//    (NO)
Edit SPECIMEN COMMENT(s) ? NO//    (NO)

Select Accession Number: 2  for Aug 29, 2001
PAAR,BARNEY Z.  ID: 111-11-3028 ABO: O Rh: POS
Specimen: BLOOD




Test:TRANSFUSION REQUEST

Patient record ABO: O  Rh: POS

  ABO INTERPRETATION: O  O
  RH  INTERPRETATION: P  POS
  ANTIBODY SCREEN INTERPRETATION: POS  POS
Select SERUM ANTIBODY: Anti e
     1   ANTI E    52030  ANTI E
     2   ANTI E(w)    52110  ANTI E(w)
CHOOSE 1-2:  ??
Select SERUM ANTIBODY: Anti c
     1   ANTI C    52020  ANTI C
     2   ANTI Ce    52070  ANTI Ce
     3   ANTI Cw    52080  ANTI Cw
     4   ANTI Cx    52090  ANTI Cx
Select ANTIBODIES IDENTIFIED: Anti c
     1   ANTI C    52020  ANTI C
     2   ANTI Ce    52070  ANTI Ce
     3   ANTI Cw    52080  ANTI Cw
     4   ANTI Cx    52090  ANTI Cx
CHOOSE 1-4:  ??
Select ANTIBODIES IDENTIFIED: Anti e
     1   ANTI E    52030  ANTI E
     2   ANTI E(w)    52110  ANTI E(w)
CHOOSE 1-2:  ??
Select ANTIBODIES IDENTIFIED: Anti k
     1   ANTI K    51810  ANTI K
     2   ANTI Kp(a)    51830  ANTI Kp(a)
     3   ANTI Kp(b)    51840  ANTI Kp(b)
CHOOSE 1-3:  ??
Select ANTIBODIES IDENTIFIED: ANti i
     1   ANTI I    51750  ANTI I
     2   ANTI I(int)    51770  ANTI I(int)
CHOOSE 1-2:  ??
Select ANTIBODIES IDENTIFIED: Anti s    52310  ANTI S
  ANTIBODIES IDENTIFIED COMMENT:
Select ANTIBODIES IDENTIFIED: ?
    Answer with ANTIBODIES IDENTIFIED:
   75          ANTI S
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          You may enter a new ANTIBODIES IDENTIFIED, if you wish
          Limits entry to only blood group antibodies

 Answer with FUNCTION FIELD NAME, or SNOMED CODE, or IDENTIFIER,
or
      SYNONYM
 Do you want the entire FUNCTION FIELD List? n  (No)
Select ANTIBODIES IDENTIFIED: 75  ANTI S
  ANTIBODIES IDENTIFIED: ANTI S// @
    SURE YOU WANT TO DELETE THE ENTIRE ANTIBODIES IDENTIFIED? y
(Yes)
Select ANTIBODIES IDENTIFIED:

Date/time work completed: NOW//    (AUG 29, 2001@08:02)
```

Example 3:

Edit Corresponding Antigen/Antibody

```
Select Edit blood bank files Option: AA  Edit Corresponding
Antigen/Antibody
Select ANTIGEN or ANTIBODY: ANTI e              52050
CORRESPONDING ANTIGEN/ANTIBODY: e//
COMPATIBILITY FACTOR: .1//
COMMENT:
  No existing text
  Edit? NO//
Select TITLE OF ARTICLE:

Select ANTIGEN or ANTIBODY: ANti e              52030
CORRESPONDING ANTIGEN/ANTIBODY: E//
COMPATIBILITY FACTOR: .8//
COMMENT:
  No existing text
  Edit? NO//
Select TITLE OF ARTICLE:
```

Work Around:

The Blood Banker must ensure that the correct antibody is being selected at all times when prompted by the system for user input. This can be accomplished by entering the SNOMED code numeric identifier instead of the name for all antibodies at any prompt that references the Function Field file #61.3 for user input.
For example, enter 52030 instead of "ANTI e". By entering the correct SNOMED code, the Blood Banker will avoid the potential occurrence of the system returning an incorrect antibody due to the problem described in this memo.

Another work around to this problem could be to enter the Identifier character for the antibody instead of typing the name.
For example, enter a lowercase e for ANTI e, or an uppercase E for ANTI E. Although this work around is acceptable, the potential for user error due to the incorrect use of the cap lock key does exist, and the best way to avoid this would be to only use the SNOMED code numeric identifier.

Additional precautions:

- When a NEW entry is entered in a field that references the Function Field file #61.3 and the user is prompted for another selection, enter a "**?**" to validate that what was previously entered is correct.
- When working on a pc workstation, the user should keep the cap lock key ON and use the shift key in conjunction with the character when it is necessary to enter a lower case character.

VHA transfusions services are directed to post, provide notice and training to all affected employees, and incorporate the instructions given in this document into their daily business practices. Procedure Manuals must be modified to reflect this change.

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