

WASHINGTON STATE UNIVERSITY



VETERINARY MEDICINE EXTENSION

**Outcomes Driven Health Management**



## **Good Health Records Setup Guide for DHI-Plus® Health Event Users**

A guide to setting up recording practices for the major diseases  
of dairy cattle on the farm

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## GOALS and RULES of Computer Records

When setting up Health Event Data Entry Protocols consider the following:

### GOALS of Computer Records:

#### 1. Individual cow management decisions

Computer records need to make it possible and easy to manage individual cows on a daily basis. Decisions regarding cows to treat, to move and when cows have passed their milk/meat withholds should be correctly and easily made based on the computer records.

#### 2. Regulatory compliance and residue avoidance

Treatment records must be kept in order to be compliant with FDA regulations and are a necessary component of residue avoidance in milk and meat.

#### 3. Outcomes-based health management decisions

Computer records should make it possible to evaluate the health of the herd and the outcomes of disease on the dairy (retreatment, recurrence, removal). Providing information to make best management decisions based on what the cows on the dairy tell you.

### Three Simple RULES of Good Recording:

#### 1. All disease episodes should be captured

Record ALL disease episodes identified regardless of severity, duration or treatments!

Some dairies only record disease episodes that are considered 'severe'; others only record those cases that are treated with a drug that has a withdrawal. **Record them all** and include severity or treatment. This allows you to compare the outcomes of cases based on these criteria and determine how best to manage your cows on your dairy based on your records!

Accurate, industry-wide health records will allow: future genetic selection based on disease resistance, comparison of disease incidence and evaluation of treatment efficacy across the industry. Current 'user-defined' health records lack accuracy thus **comparisons between farms can't be made** as is done with reproduction and milk production records.

#### 2. Record episodes using a single, specific event for each disease

Make and record specific disease diagnoses.

**Call it what it is!** The FDA wants to know what disease was being treated; you want to know what disease occurred, how it was managed and the outcome of those management decisions.

- Make a specific disease diagnosis and record it. For example if you diagnose a fresh cow with a uterine infection record it as METR or METRITIS not DIRTY, ILL, EXNL, INFUSE or TREATED.
- Don't lump different diseases into a single, non-specific event like ILL, TREATED or OTHER or a treatment event like EXNL or TREATED.

#### **Pick ONE event and stick with it!**

- Record all cases of a disease using the same event. For example record cows with clinical mastitis as MAST only, not MAST, ECOLI, MYCO and STAPH. Record specific information about the disease episode in the remark.

- Consider using a different event for re-treatments. This keeps the count of disease episodes accurate and makes it possible to easily identify clinical episodes that failed to respond to initial therapy.
- Avoid recording an event for every day of treatment. Doing so inflates disease episode counts.

### 3. Record the same information, in the same order with the same abbreviations for each disease.

#### Record the same information for every episode of disease recorded

What information should be recorded is dictated by the answers you want to get from the cows. At a minimum record the following:

- Treatment
  - Be sure to always include those with a meat or milk withdrawal time or other treatments you may want to evaluate.
  - Always include “no treatment (NT)” as an option. This clearly indicates the treatment being tracked was not given. If treatment information is missing from a record there is no way to know if they truly were not treated or if it just wasn’t recorded.
- Lesion location (quarter with mastitis, foot that is lame)
  - Recording quarter or foot is critical to evaluating where management may have failed
    - A repeat (recurrent) episode of mastitis in the same quarter suggests treatment failure.
    - Another clinical episode in a different quarter suggests prevention failure.
- Cow location (pen the cow was in when diagnosed with disease)
  - Recording pen allows evaluation of pen as a risk factor for disease where relevant (primarily mastitis and diseases causing lameness).

#### Record that information in the same order for every episode of disease recorded

This makes it possible for a computer to parse out the information from all disease episodes recorded for all cows. If the computer is told treatment information is first and quarter information is second it must always be that way. This is another reason for recording ‘no treatment (NT)’ when a no treatment is given, it acts as a ‘space holder’ for treatment information maintaining the expected order of information.

#### Use the same abbreviations for every episode of disease recorded

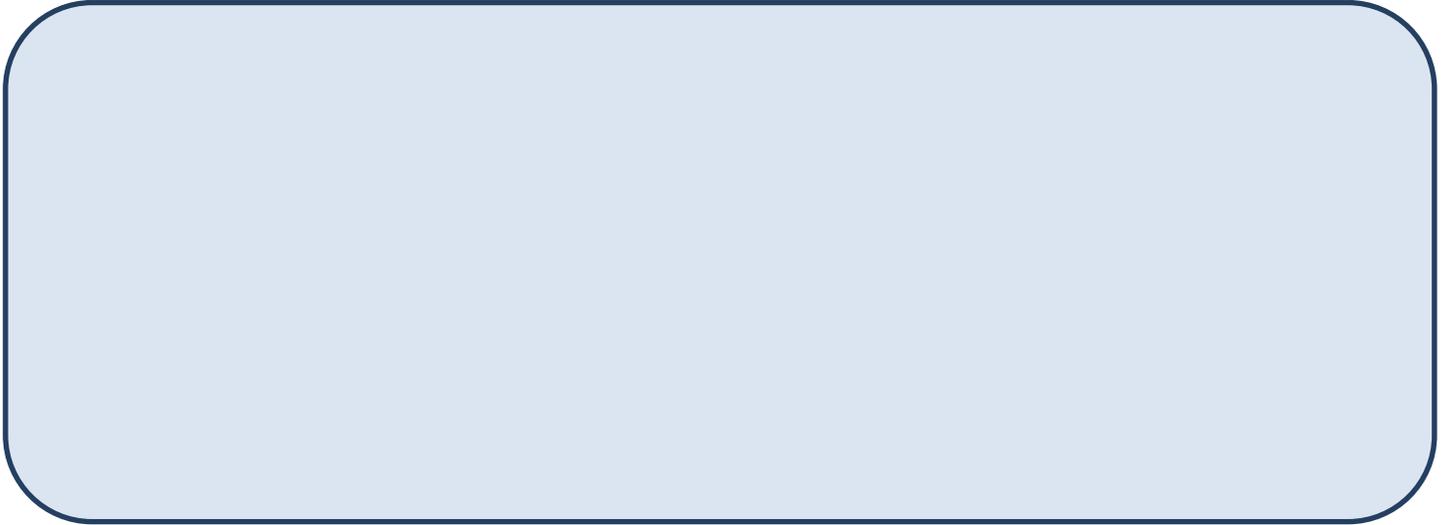
If records are to be efficiently summarized and evaluated by a computer the same abbreviations must always be used. For example many dairies record the reason a cow died and often use ‘?’ to indicate the cause of death is unknown. However, sometimes ‘??’ or ‘???’ or ‘?????’ is entered. To the human mind they all register as a question mark (though some might consider the number of question marks to indicate the degree of uncertainty as to why the cow died) but to a computer each entry is different.

- Use 2-3 letter abbreviations, as these are more easily recognized than single letter abbreviations
- Limit use of punctuation and spaces, if used be consistent, but otherwise they take up valuable space in a remark and often don’t contribute much to understanding the information in the remark.
- As discussed before record ‘no treatment (NT)’ so the treatment choice is clear and information order is preserved.
- If you want to indicate that an animal is not being treated because she is being sent to beef then you can record a treatment of ‘BF’ for beef.

## Data Flow and Capture & Entry of Data Plan

### Data Flow Diagram

You recorded how data flow occurs currently; are any changes going to be made to the flow of data? Indicate the proposed flow of data from cow to computer below.



### Data Capture

WHO is going to capture data \_\_\_\_\_

WHAT data is going to be captured \_\_\_\_\_

WHEN is data going to be captured \_\_\_\_\_

WHERE is data going to be captured \_\_\_\_\_

HOW will data be captured \_\_\_\_\_

### Data Entry

WHO is going to enter data \_\_\_\_\_

WHAT data is going to be entered \_\_\_\_\_

WHEN is data going to be entered \_\_\_\_\_

WHERE is data going to be entered \_\_\_\_\_

HOW will data be entered \_\_\_\_\_

## Data Flow and Capture & Entry of Data on Farm

### Data Flow

Data should flow from the point of action at the cow (data capture) to entry into the health record system (data entry) involving the fewest people and least number of steps possible. Over time unintended complexity and unnecessary data capture and recording can develop with 'ad hoc' plans resulting in loss of one of the most valuable resources on a dairy - TIME. Is time being wasted on your dairy?

Use the data collected on the Hospital/Fresh Pen Observations form to help evaluate the data flow.

### Data Capture – Who will capture what, where, when and how?

Cow people should be doing cow work not excessive paper work. However, some is required if the dairy is to have "Good Health Records" and optimize the effectiveness of the cow work they do. It is critical to keep data capture as simple and convenient as possible, making use of forms and methods already in place with some modification as needed.

There is a common perception that keeping "Good Health Records" will involve 'a lot more paperwork' and time. However, often critical evaluation of data flow on the dairy results in streamlining paper work and a reduction in the time required.

General recommendations for data capture sheets:

- Make sure that all data needing to be entered into the computer is captured on the data entry sheets or directly into a handheld computer.
- Do not include items for which the 'correct answer' can be provided even if the proper procedure was not followed or completion of tasks can be filled in at a later time even if it was not.
  - Example. 'Calving observation sheet' with check boxes for hours of the day maternity pen was observed. Instead ask for the time a cow begins in stage 2 labor and the time delivery occurred and the time assistance was given. These data are more informative and facilitate accountability.
- Only capture data that will be used and eliminate capture of data that are not used.
  - Example. Every cow with clinical mastitis had a MAST event recorded with a remark: MIM. According to management, workers were supposed to record the severity of clinical mastitis and MIM was an abbreviation for Mild Mastitis. Turns out the workers thought it just meant mastitis and all cows had the MIM abbreviation and none received the MOM (Moderate Mastitis) or SEM (Severe Mastitis). Clearly these severity data were not being used by the dairy or someone might have noticed the strange fact that cows only had mild clinical mastitis.
- Reduce redundant steps in data capture. Streamline the process, where possible, by capturing data (writing it down) on the same sheet that will be read for data entry.

### Data Entry – Who will enter what, where, when and how?

For herds using dairy management software on a computer, protocols for data entry will be necessary to ensure accurate and consistent health records.

- The fewer the better; the fewer people responsible for data entry the better for keeping consistent records.
- Limit data entered to those:
  - Needed for computer generated lists.
  - Necessary for individual cow management.
  - To be summarized for the entire herd to evaluate management.
  - That must be kept for permanent records.

DHI-Plus® Health Data Entry Template

Dairy:

Date:

Disease:		Condition:				
Info Categories	1. <input type="checkbox"/>	2. <input type="checkbox"/>	3. <input type="checkbox"/>	4. <input type="checkbox"/>	5. <input type="checkbox"/>	
Abbreviations:						

**Disease:** Disease being recorded

**Condition:** Condition to be entered into DHI-Plus®

**Abbreviations:** Definitions of abbreviations to be used in health diagnosis recording

**Condition Info:** Pieces of info in the order recorded in the health diagnosis

: # of Characters in abbreviations of the health diagnosis

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## Data Entry Templates Instructions: DHI-Plus® Health Event Users

### Purpose:

Using these templates systemically determines what and how the dairy will record information about diseases/conditions of importance in the computer.

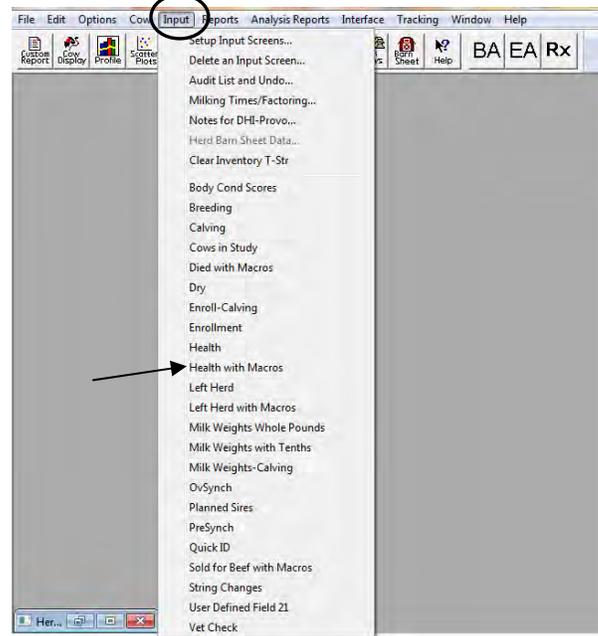
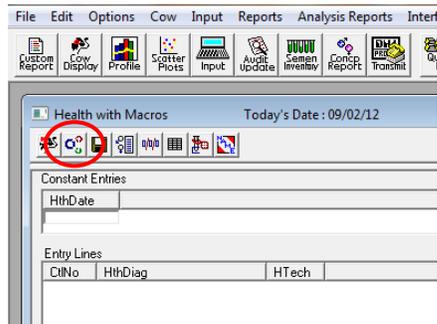
### How to use the Templates:

There are only 11 characters allowed for each Health Event entry. Macros can be used to help standardize some of the data entry.

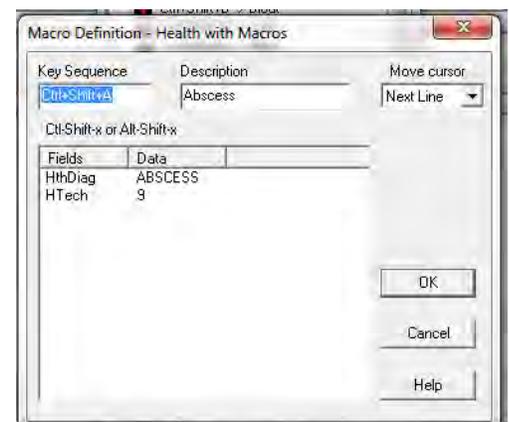
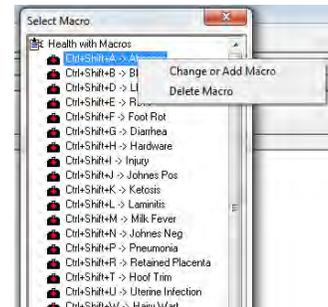
- Fill in the Disease you are discussing and the Condition that will be used to record this disease.
- Info Categories: Record the type of information that will be entered at the top of each column (ie. treatment, quarter, pen). Fill in the circle with the number of characters that will be taken up by that piece of information, if the number of characters taken up by the piece of information is variable then put a 'V'.
  - For ease of future data evaluation, be sure that any piece of information that has variable number of characters is either the last piece of information or has a delimiter after it.
- Abbreviations: Indicate the abbreviations that will be used to represent the information in each category.

## Setting up DHI-Plus®: Macros

1. Macros are helpful if RX Plus is not being used or for data that you want to enter but do not necessarily want to enter using RX. Macros will help improve consistency of data entry and should speed up data entry.
2. Click on 'Input' and then choose 'Health with Macros'.
3. An input screen titled 'Health with Macros' will come up. Choose the Macros Window button, circled in red below.



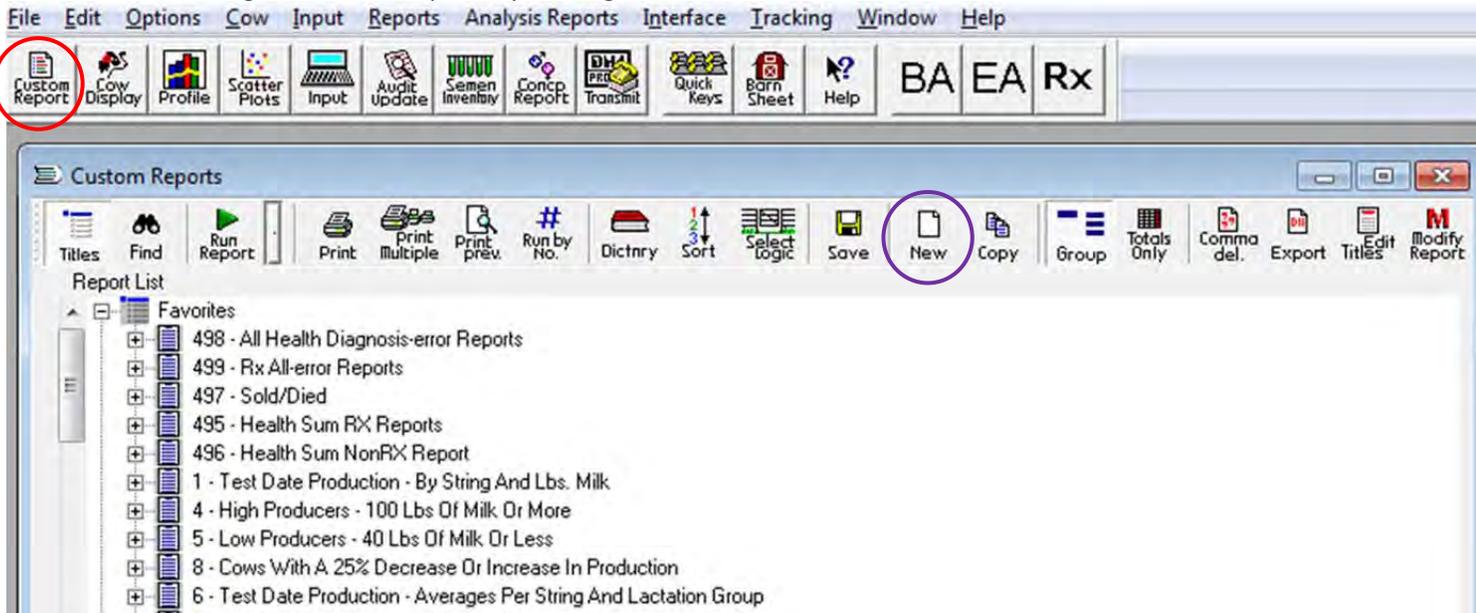
4. A list of macros will come up. In most cases this is a default list, so everything on here can be changed and new items added to in order to fit your needs. A total of 36 macros can be made with the Ctrl+Shift+x sequence and another 36 can be created with the Alt+Shift+x sequence (26 letters and 0-9).
  - a. Left click on a macro, then right click and choose 'Change or Add Macros.'
  - b. Fill out Macro Definition
    - i. Key Sequence: All key sequences must start with either Ctrl+Shift or Alt+Shift, then you can put +any letter or single digit number.
    - ii. Description: This is what you will see in the Macro list.
    - iii. Move cursor: You can choose from the drop down list where you want the cursor to stop once you have entered the macro. If you want the ability to add/change information in the HthDiag Field then choose HthDiag from the top down.
    - iv. Fields: These are the fields of information that the macro will fill out for you. You shouldn't have to change anything here.
    - v. Data (HthDiag): This is where you enter the default entry that you would like. This can include anything that you would like- disease, treatment, quarter, etc. You have up to eleven characters that you can fill; be as specific and consistent as possible.
    - vi. Data (HTech): This is where technician is recorded, you can make it a default entry or if you leave it blank you can fill it in every time.



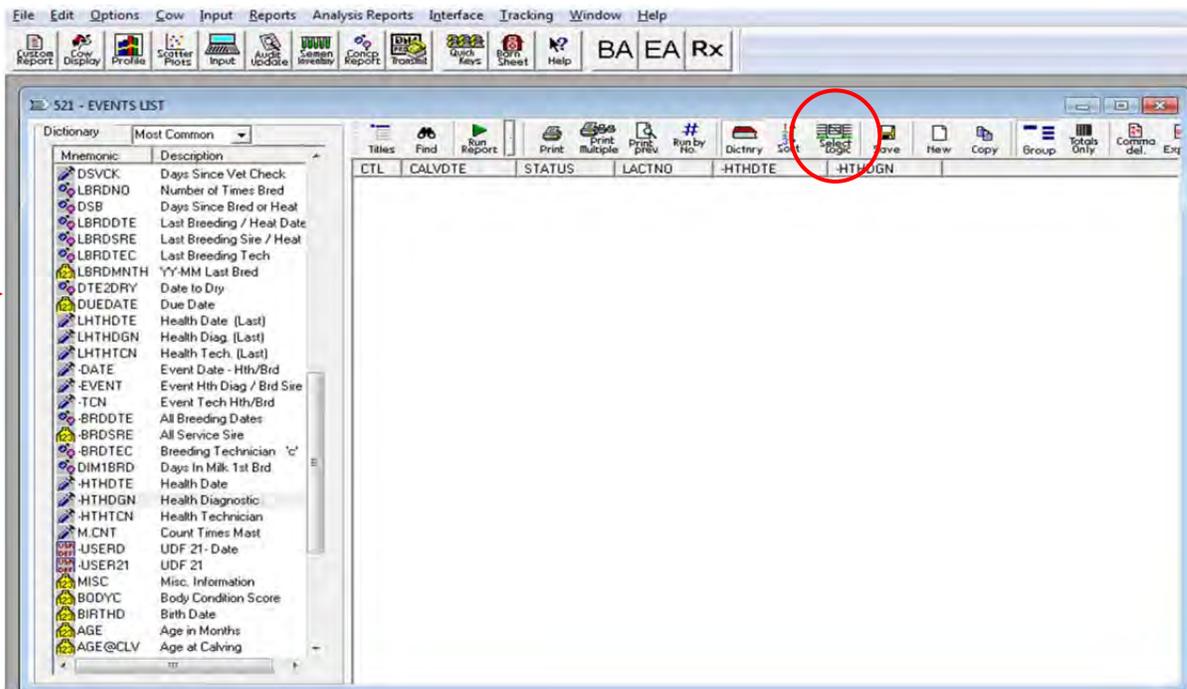
- c. Click 'OK' to save the changes. If you changed an existing macro then a window will pop up asking you if you want to overwrite the existing macro, click 'Yes'.
5. Entering data
- a. When you want to enter data, select 'Input', choose 'Health with Macros' and then open the Macros Window like you did in Steps 2 and 3.
  - b. Enter the date or hit tab to enter today's date, enter the cow's ID number, hit tab and then enter the key sequence of the health entry you would like, or double click on the macro line you would like.
  - c. If a cow has more than one entry for today then hit tab until the cursor is in the HthDiag field and enter the macro. If not then enter the next cow's ID number and enter her information.

### Treatment List: HealthDiag Entries Only

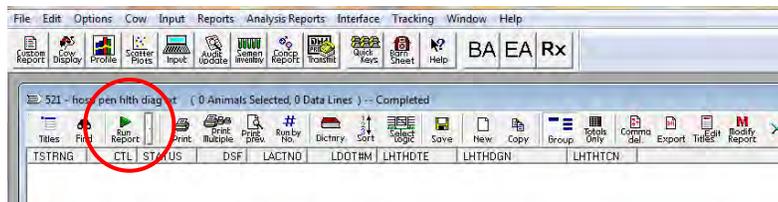
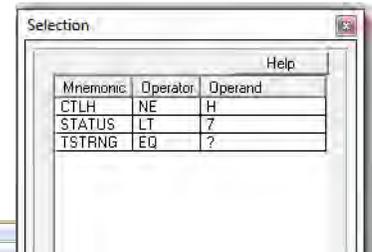
1. If you would like a list of cows in the hospital pen and their health diagnosis, create the following report by:
- a. Going to 'Custom Report' by clicking the icon circled in red below.



- b. In the 'Custom Reports' window, select 'New', circled in purple above.
- c. In the 'New Report Setup' window, type 'HthDiag TREATMENT LIST' in the 'New Report Title' space and hit enter. Go with the default Report Number provided.
  - i. From the 'Dictionary' space to the left (Red arrow below), click and drag the following fields into the report: TSTRNG, CTL, STATUS, DSF, LACTNO, LDOT#M, LHTHDTE, LHTHDGN, LHTHTCN.
  - ii. NOTE: this will give you a list of the LAST health diagnosis entered, if you would like a list with Health Diagnosis entered for the past x number of days see Alternate List below.

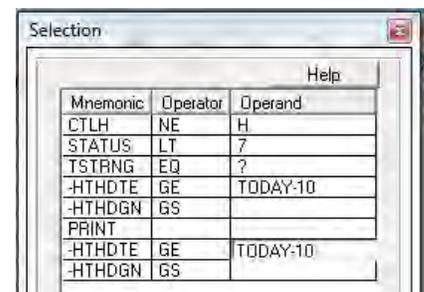


- d. Go to 'Select Logic', circled in red above.
- e. In the 'Selection' window, change the STATUS Operand to 7.
- f. Then right click and select 'Insert Item'.
- g. In that line, type in the items to match the figure to the right. You can then close the 'Selection' window.
- h. Click 'Run Report' circled in red below and enter the pen that the hospital cows are in.



2. Alternate list: List of all cows in hospital pen with their health diagnosis for the past x number of days.
  - a. Follow Steps 1 a -c.
    - i. From the 'Dictionary' space to the left (Red arrow above), click and drag the following fields into the report: TSTRNG, CTL, STATUS, DSF, LACTNO, LDOT#M, -HTHDTE, -HTHDGN, -HTHTCN.

- b. Go to 'Select Logic', circled in red above.
- c. In the 'Selection' window, change the STATUS Operand to 7.
- d. Then right click and select 'Insert Item'.
- e. In that line, type in the items to match the figure to the right. You can then close the 'Selection' window.
- f. This will give you the past 10 days of Health Diagnosis entries; you can change the number of days to fit your needs.
- g. Click 'Run Report' and enter the pen that the hospital cows are in.



## Dairy Health Event Recording in Health Event Field

**Simple Rules of “Good Health Records” to follow when “How to record” questions arise:**

- Record All Disease Episodes that Occur
- Record Disease as a Single, Specific Event
  - Don’t record as a treatment or generic event
- Record Remarks with Same Info in Same Order using Same Abbreviations
  - Record Treatments having a withdrawal and foot or quarter at a minimum

**Udder Health Events**

**MAST Event**

- *Instructions or specifics about the disease recording*
- Health Event Recording:


**Foot Health Events**

**LAME Event**

- *Instructions or specifics about the disease recording*
- Health Event Recording:


**Reproductive Health Events**

**RETAINP Event**

- *Instructions or specifics about the disease recording*
- Health Event Recording:


**METR Event**

- *Instructions or specifics about the disease recording*
- **Health Event Recording:**


**Other Health Events**

**PNEUMON Event**

- *Instructions or specifics about the disease recording*
- **Health Event Recording:**
