



Western Dairy News

for the West, about the West, from the West

Good health records and outcome-driven health management

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Dairy producers and their health management team are well aware of best management practices to keep their herds healthy and productive. Unfortunately, they don't always know how well those practices are being implemented.

Commonly used measures of health management effectiveness include perceptions of those treating sick cows, percent of the milking herd in the hospital pen, and monthly counts of disease summarized by herd management reports. These measures are often biased or imprecise when compared to the metrics used to evaluate reproduction management effectiveness (conception rates by technician, sire, breeding code or times bred) and pregnancy rate because the recording of reproduction data has been standardized by the industry and is a system defined in dairy management software and DHIA records.

By contrast, health data records are "user-defined" and are not standardized. Furthermore, reproduction records are kept with the intention of evaluating outcomes of all cows, but health records are focused on what was done to individual cows with no easy way to determine the outcomes of those actions. Essentially, the health and well being of your cows is being managed like reproduction was managed nearly a generation ago. If reproduction records were kept the way health records are today they would look more like this:

Record breedings on the individual cow's record. When you enter a breeding you are not prompted for sire, technician or breeding code. If you want you can enter information any way you want in a comment about the breeding (but the computer won't be able

to read that comment). The system keeps track of the number of breedings each month. You can assume that if it is too low there is a problem, and if it is high then repro must be going well.

Record when a cow is preg-checked and whether she was pregnant or open on the individual cow's record. Realize that the computer will not link the preg check to the prior breeding event or keep track of whether the cow was pregnant or open to that breeding. Thus, no conception rates can be calculated. Since conception and pregnancy rates can't be calculated (because outcomes of breedings can't be easily evaluated), you can use the percentage of cows in dry pens as a measure of reproductive management effectiveness. If it gets low, ask the breeders which sires' semen they think is getting cows pregnant and use only that semen for the next couple of months.

The above scenario is clearly an antiquated way to manage reproduction, but it is a fairly accurate representation of the health management records on most U.S. dairies in 2011. Health records need to function like reproduction records; they need to move from being user-defined to system-defined. The system should prompt the user for needed information about a disease episode, track important outcomes, and allow quick and easy summary evaluation of those outcomes based on industry standards. Dairy Comp 305 needs a MASTSUM, DHI Plus needs a Lameness Report Icon, etc.

Until health records and systematic software are drastically revised and updated, the following recommendations will help you comply with the complete treatment records requirements specified by the Food and Drug Administration.

What are good health records?

They are accurate. They represent all disease that occurs on the dairy and how each disease is

treated. They are consistent. All disease episode information is recorded the same way every time. They are informative. They allow health management decision-making based on outcomes rather than perceptions. Good health records are achieved by following the "3 Rules of Good Recording":

Rule #1: Record all disease episodes that are identified, regardless of severity, duration or treatments.

Some dairies only record disease episodes that are considered severe, and other dairies only record cases that are treated with a drug that has a withdrawal time. Record them all and include qualifiers like severity and treatment in the remarks area.

Accurate, industry-wide health records will allow future genetic selection based upon 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. You can find recommended disease definitions at www.goodhealthrecords.com

Rule #2: Use a single, specific event to record each disease.

Call it what it is! FDA wants to know what disease was being treated and you want to know what disease occurred, how it was managed, and the outcome of your 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.

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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 area.

Use 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, because this inflates disease episode counts. If you must record daily treatments, use a different event after the first day like MASTTX for mast daily treatment.

Record the same information for every episode of disease recorded. The information recorded is dictated by the answers you want to get from the cows. At a minimum record the following:

- Treatments with a meat or milk withdrawal time. If no treatment is given record NT.
- Lesion location (specific quarter with mastitis or foot that is lame, etc.). This information is critical to evaluating where management has 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. Recording which pen or group a cow was in when a disease was diagnosed allows evaluation of pens as a possible risk factor for disease (such as primarily mastitis and diseases that cause lameness).

Rule #3: Record information in the same order for every disease episode.

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 recorded that way. This is another reason for recording "no treatment" (NT) when a 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 so they can be recognized and evaluated by a computer. Use 2- or 3-letter abbreviations, as these are more easily recognized than single letter abbreviations. Limit the use of punctuation and spaces, but if they are used they must be consistent, otherwise they take up valuable space in a remarks area and often don't contribute much to understanding the information stated. Make sure to record 'no treatment' (NT) so the treatment choice is clear and the information order is preserved.

Developing a written health record management plan

On dairies with hired labor, or where more than one person is responsible for the same job, written protocols are critical to ensuring everyone is consistent. These steps will determine what data needs to be recorded and they result in data that can critically evaluate health.

Assess data needs. Determine the questions you want to ask about all cows regarding health management and they will dictate what data needs to be recorded. Work with your veterinarian and others on your health management team to come up with a list of questions for which you want answers. Examples of questions you would want answered concerning clinical mastitis include:

1. Are clinical mastitis prevention measures being effectively implemented?
2. What was the incidence of new clinical mastitis episodes (at the quarter level) this month?



3. Are clinical mastitis treatment protocols effective?

4. What was the incidence of retreatments (RTX)?

5. What was the incidence of repeat (RECUR) clinical mastitis episodes (at the quarter level) this month?

To answer these questions the following definitions and data are needed:

Definitions for clinical mastitis episodes. New (first episode in that quarter during the current lactation) and RTX treatments given within 14 days after the initial treatment protocol. (For example: Protocol is treatment 'X' once a day for 3 days. On day 4 the cow still has clinical mastitis and a second course of treatment 'X' is given. RECUR means a second or greater clinical episode in that quarter during the current lactation (15-60 days after prior clinical episode). Data that is needed to answer those questions for each clinical mastitis episode are the quarter affected, the treatment given, and the pen the cow was in at the time of the clinical episode (assess pen level prevention measures; hygiene).

Assess data flow.

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

Data capture: who will capture what, where, when and how?

Cow people should be doing cow work, not excessive paperwork. However, some paperwork is required if the dairy is to have good health records.

It is critical to keep data capture as simple and convenient as possible. There is a common perception that keeping good health records will involve a lot more paperwork and time. However, critical evaluation of data flow on the dairy often results in streamlining paperwork and a reduction in the time required. You increase the likelihood of successful adoption if you stick with the familiar and make someone's job easier or more efficient than before. General recommendations for data capture sheets are:

1. Do not include items for which the correct answer can be provided even if the proper procedure was not followed, or the fact that something was done can be filled in at a later time even if it was not. An example is 'Calving Observation Sheet' with check boxes for hours of the day the maternity pen was observed. Instead, ask for the time a cow begins in stage 2 labor, the time delivery occurred, and the time assistance was given. These data are more informative and they facilitate accountability.

2. Only capture data that will be used and eliminate the capture of data that are not. For example, record every cow that had a clinical mastitis event with the remark MIM. I know of one dairy where workers were supposed to record the severity of clinical mastitis. MIM was the abbreviation for mild mastitis, but workers thought it just meant mastitis, so all cows had the MIM abbreviation and none received the MOM (moderate mastitis) or SEM (severe mastitis). Clearly, these severity scores were not being used by the dairy otherwise someone might have noticed the strange fact that cows only had mild clinical mastitis.

3. Reduce redundant steps in data capture. Streamline the process where possible by recording data 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. Fewer people that are responsible for data entry is better for keeping consistent records. Limit data entry to those that are needed to computer generated lists and are summarized for the entire herd to evaluate management. If the data can be easily evaluated on paper, don't enter it into the computer.

Taking the steps described above will move your dairy toward achieving good health records. Software is currently being developed to evaluate those records and calculate important outcomes of health management like re-treatment rate, recurrence rate and removal rate, as well as the factors that influence them. For more information please visit www.goodhealthrecords.com or contact John Wenz at jrwenz@vetmed.wsu.edu.

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