# Health Recording, Past and the Future

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## Summary

- Finland has had a health recording system for all dairy herds for 25 years
- The system has not only been useful for breeding but also for farm management, practical veterinary work and veterinary research
- New information tools have been created to utilize health data (ProTerveys, Naseva)
- The time has come to start recording more detailed health information nationally

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## This presentation...

1. How was the time before health recording
2. What progress did start of health recording mean
3. What new is already coming in the pipeline and what else should be done in the future

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# Before the Past ...
## of Health Recording

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## Pre-healthrecorded time

- Herd size was half of that today, cattle owners remembered much of the history of an individual cow
- Much lower milk quality was marketable, to a good price
- CMT-test was not in use at most farms
- Most people had never touched a computer or a mobile phone

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## Pre-healthrecorded time

- Some herds kept good notes on medication and diseases
- On most farms nobody knew, how many times an older cow had been treated for mastitis

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## Pre-healthrecorded time

Veterinarians learned to ask the farmer detailed history of the cow.

They also learned not to fully believe the story.

It was not easy for a vet to find out, how the animal was treated earlier by other vets.

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# The Past

of Health Recording

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## The past of health recording started in early eighties

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## AI-cooperatives in key role

- AI-cooperatives printed new cow-cards: one side for AI, other side for health
- Veterinarians wrote information on cow cards
- AI-technicians collected this information and sent it to recording
- Reports to farms and veterinarians
- National reports published annually

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Those days farms did not have computers. Computers were only common in large commercial enterprises and in research. Memory was limited and expensive. Magnetic tape was commonly used for storage of data, which made handling of data laborous.

Hence, health data was made very compact.

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## A row of health data

- Animal ID 10
- Date 6
- Code of diagnosis (originally 2 digits, now 3)
- Treatment time (first, second, third etc. treatment of the present illness) 1
- (Code of another simultaneous diagnosis) 2
- (Treatment time of of the simultaneous diagnosis) 1
- Number of the veterinarian 4

- Total lenght 26 characters (later 24)

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## A row of health data on farm

- Animal ID
- Date
- Code of diagnosis (originally 2 digits, now 3)
- Treatment time (first, second, third etc. treatment of the present illness)
- (Code of another simultaneous diagnosis)
- (Treatment time of of the simultaneous diagnosis)
- Number of the veterinarian
- ***Free space for symptoms and medication (this data not recorded)***

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## When the past of health recording started...

… much of progress was, that the diagnoses and treatments were written down at the farms

- Now the farmer and the veterinarian knew the medical history of the cow.

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## How was the recorded health data used in the past ?

- Farms got an annual report (now reported quarterly)
- Vets got an annual listing
- National data was published annually
- Data was used for genetic selection
- Data was used for research

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## Health recording problem ...

Called

… the veterinarian

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## How to attract the vet to store health data ?

You may give the vet:

- Money
- Good conscience (for making world better)
- Education
- Background information
- Feedback information
- Shortcuts in paperwork
- Pressure by the farmer (make the farmer to order the vet)

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## How to attract the vet to store health data ?

What did we give to the vet:

- Money +
- Good conscience +
- Education –
- Background information (+) (best information was on the cow cards, most of it not recorded)
- Feedback information (-)
- Shortcuts in paperwork -
- Pressure by the farmer (make the farmer to influence the vet) +

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# The Future

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## In the Future, not far

- Farms grow bigger – 40-100 cows are no more rare
- Often one person is no more involved with every cow's all doings 24 h a day 7 days a week
- Farms have computers
- Veterinarians have computers
- Preventive veterinary work increases
- Labour is more expensive, products are not

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## In the Future

- Farms have to store a lot of health information (already)
- Farms have to send a lot of health information to dairies and slaughterhouses (chain information, later this decade)

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## In the Future

- **Farms need good computer programs for manageing everyday tasks** like:
  - Estrus monitoring
  - Inseminations and pregnancy results
  - Grouping of animals according to production level, future calving date etc.
  - Observations of appetite, lameness, aggression or fear, depression, alertness or any unexpected symptom or behaviour

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## In the Future

- Information is stored online

This is simly because we need it online and we have no time to store and spread it first on papers and record it later.

We have to tell the computer now, that this cow is on antibiotic withdrawal or that the feeding system must not give it concentrates

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## In the Future

- Information is stored in a compatible way

We can combine information from several sources.

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## In the Future

- Information is stored directly by the vet or by another person treating the cow.
- Veterinary computer programs get the herd and cow information from the national file and add health data into it. Also herd programs can do this.
- Data of given medicines is stored
- Laboratory results are stored nationally

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- Much of the new health data we should store is already recorded.
- It is recorded in the veterinarians computer
- We should simply get it from there

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## How to attract the vet to store health data ?

You may give the vet:

- Money
- Good conscience (for making world better)
- Education
- **Background information**
- **Feedback information**
- **Shortcuts in paperwork**
- **Pressure by the farmer** (make the farmer to influence the vet)

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## Background information

- **When treating an individual cow a vet would like to know e.g. :**
- Feeding and appetite (what really was eaten)
- Production (compared to expectations)
- Earlier diseases of the cow and the herd (also milk cell counts)
- Date of calving and later inseminations

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## Shortcuts in paperwork

- According to the legislation a vet must keep files of patients. This includes symptoms, laboratory results, treatments etc.
- It is very ineffective that every vet creates files of same patients and holds then a random incomplete piece of the health information of a cow.
- ***Patient files should be national*** (also for human medicine)

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## Shortcuts in paperwork

- The information of individual cows and also of herds should come automatically to the computer of the veterinarian
- The information saved by the veterinarian should transfer directly to the national data bank as well as to herd data bank

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Shortcuts in paperwork:

## ProTerveys

***The future started already. This service is available.***

***But let's first define herd health care.***

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## Herd Health Care

In herd health care a vet attempts to systematically decrease diseases and costs caused by diseases.

Often reproduction management is also included.

Health care is done at herd level (instead of individual level).

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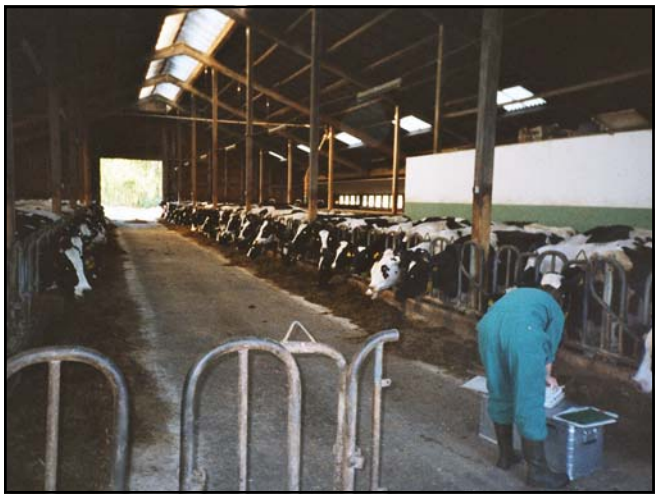

## What does the vet want to know?

In herd health care e.g.:

- Incidence of different diseases
- Reproduction data (calving interval, days open, number of services needed per pregnancy, insemination intervals etc.)
- Lists of problem animals (for clinical or laboratory examination, treatment or culling)
- Laboratory data already existing (cell counts, mastitis bacteriology, progesterone tests, autopsies…)
- Level of production

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Shortcuts in paperwork:

## ProTerveys

- ***ProTerveys*** was published 2004 by ProAgria.
- ProTerveys means 'for health'
- ProTerveys is a computer program which picks up herd information from ProAgria national databank and prints it on regular veterinary health care form
- Around 100 figures are collected automatically, which saves hours of work

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*TUOTANTO

| VUOSI | 2005 | 2004 | 2003 | Tilan oma tavoite | Yleiset tavoitteet |
|---|---|---|---|---|---|
| Keskituotos | 10125 | 9687 | 9345 | | 5000-6000 kg/v hälytysraja |
| Lehmiä | 61,7 | 53,3 | 49,9 | | |
| Nuorkarjaa | 65 | 165 | 123 | | |
| Rasva% | 3.66 | 3.61 | 3.59 | | 3-3,5% hälytysraja |
| Valkuais% | 3.38 | 3.25 | 3.31 | | 3% hälytysraja |
| Urea | 28 | 35 | | | <20 ja >40 mg/100 ml hälytysrajat |
| Keskipoikimakerta | 1,90 | 2,05 | 2,08 | | 2,2 hälytysraja, tavoite 3,0 |
| Lehmien poistot kpl/vuosi -syitä | (12): 13<br>(0): 7<br>(14): 4<br>(16): 3<br>(26): 1<br>(11): 1<br>(21): 1<br>(22): 1<br>(13): 1 | (12): 9<br>(14): 4<br>(23): 2<br>(16): 2<br>(0): 2<br>(13): 1<br>(20): 1<br>(25): 1 | (12):8<br>(14):3<br>(16):2 | | |
| Syntyneitä vasikoita kpl/vuosi<br>-kuolleita kpl | 80<br>3 | 65<br>8 | | | |

***UTARETERVEYS**
**Utareterveyden tunnusluvut ja tavoitteet:**

| | | Hyvä | ! | Tavoitteet ja kommentit |
|---|---|---|---|---|
| Lypsykoneen huolto ja testaus säännöllistä | | | | 1x/vuosi ja aina alm. 1x/2 v |
| *Meijerimaidon laatu:* -solut geometrinen/yksittäiset lkot | | | | geometrinen<200 000-270 000 lpl/ml yksittäiset mlk lkot<150 000-200 000 lpl/ml |
| -bakteerit geom/yksittäiset lkot | | | | <50 000 lpl/ml |
| Solumaitojen erilleen lypsy | | | | Tarve ei muutosta |
| Tuotosseurannanmäytteissä >200.000 lehmien osuus kaikista lypsyssä olevista lehmistä TAI solutestillä lypsyssä olevat solupitoisuudeltaan 2., CMT3 neljänneksen osuus kaikista neljänneksistä | 21 % | | | < 20%<br>Alle 10% |
| Umpeutettuja neljänneksiä % | | | | Alle 5% |
| Tartunnan kantajien osuus kaikista lehmistä (S.aureus ja Str.agalactiae) | | | | Mahdollisimman vähän |
| Utaretulehdushoitoja: kpl/10 lehmää/v (tai %lehmistä) | 12 % | | | Alle 2,5 kertaa/10 lehmää/vuosi (<% lehmistä |
| Umpeenpanohoitoja | 0 | | | Tarvelaitos |
| Vedinvammoja | 0 | | | Mahdollisimman vähän |
| Vuoden aikana utaresairauksien takia teurastettuja lehmien lkm/keskilehmäluku | 22 % | | | <5% lehmistä |

## NASEVA – another new program for health care

- Naseva collects information:

- of health care visits
- of health care contracts between farms and veterinarians
- Symptoms of ringworm (Trichophytosis)
- Animal welfare
- Risk behaviour in hygiene or medication

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- Naseva starts operating this summer
- Naseva is made to grow. It is made compatible.
- Naseva will be a portal to ProTerveys and cattle register. It will later comminicate with Provet – the market leader in veterinary programs in Finland
- Naseva is planned to be developed to serve as chain information storage and delivery program

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## Feedback information: Treatment of an individual animal

Future: Feedback of field work

## What happened to a cow?

- Live or dead? Sent to slaughter or died?
- Treated again? Diagnosis? Clinical status?
- Milk somatic cell count?
- Are all quarters milked?
- Production (compared to expected)
- Inseminated? Pregnant?

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Future: avaited applications
2. Feedback of field work

## Am I good at treating milk fewer?

- My (vet or farm) results compared to those of the others :
- % cows that needed a second treatment for the same disease
- % cows that needed a second treatment for another disease after milk fewer treatment
- % cows culled in ten days

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## Future: some principles

- Health data from different sources should be applicaple through one program
- Data once stored should automatically be transferred to the file, where everybody would look for it and where everybody can utilize it

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## Future: avaited applications: Electronic patient file

- Cows lifetime health information is electronically stored in a national database
- Not only diagnosis but also all medications, laboratory results, clinical findings, surgery etc.
- Information is then available to the farm, veterinarians, consultants and reseach
- Food chain information is sent automatically from this database

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