Monitoring and preventive protocols

Tools for participatory applications on the farm level

Christine Fourichon[1], *Julie Duval*[1], *Manon De Joybert*[1], *Karin Sjöström*[2], *Ulf Emanuelson*[2], *Nathalie Bareille*[1]

[1]*Oniris-INRA, France*
[2]*SLU, Sweden*

The research leading to these results has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement n° 311824

www.impro-dairy.eu

Facts, assumptions, expectations

- Insufficient interactions between farmers and vets or advisors on health matters
- A lot of scientific knowledge but lack of effective tools for action

→ Need for flexible tools that can be adapted to the **context of each farm**

→ **Practical knowledge** of the farmer on his farm

→ *Objectives: To design and to evaluate innovative and participatory tools for monitoring and promoting health*

Step 1: Designing the tools

- A multi-step conception process

Comprehensive herd health
- Monitoring tool
- Preventive tool

based on recent literature

Expert consultation

Stakeholder meeting to identify key issues that might impair farmers' compliance to the tools

Allow farmers to use different health indicators than those proposed by scientist

Allow farmers to select preventive or corrective actions adapted to their system

impro

Step 2: Evaluating the tools

Before start study

Implementation

Short term effect

Long term effect

Use of the tool (compliance, use as intended…)

Implementation of the recommendations

Tools abilities (does it allow doing what it was intended for?)

Compliance data: reports advisor of farm visits

Existing animal health monitoring and disease prevention practices

Changed attitude towards (monitoring) health practices

Changed attitude towards (monitoring) health practices

Data effect on advisory services: questionnaire users

Existing relationship farmer/advisor

Changed relationship farmer/advisor

Changed relationship farmer/advisor

Herd health situation

Health data farms

Herd health improvements

Evaluation in two countries

Certified organic dairy farms in 2 different contexts

	France (n=20)	**Sweden** (n=20)
Average number of lactating cows	54 (min 18; max 82)	86 (min 35; max 403)
Organic regulation	EU regulation	EU + national regulation: monitoring, min. level of animal welfare, role vet described
Pre-existing herd health monitoring activities on the farm		
	n=15, no monitoring at all	n=13, monitoring all 5 health domains

The monitoring tool

The farmer choses an advisor in animal health

Meeting on the farm

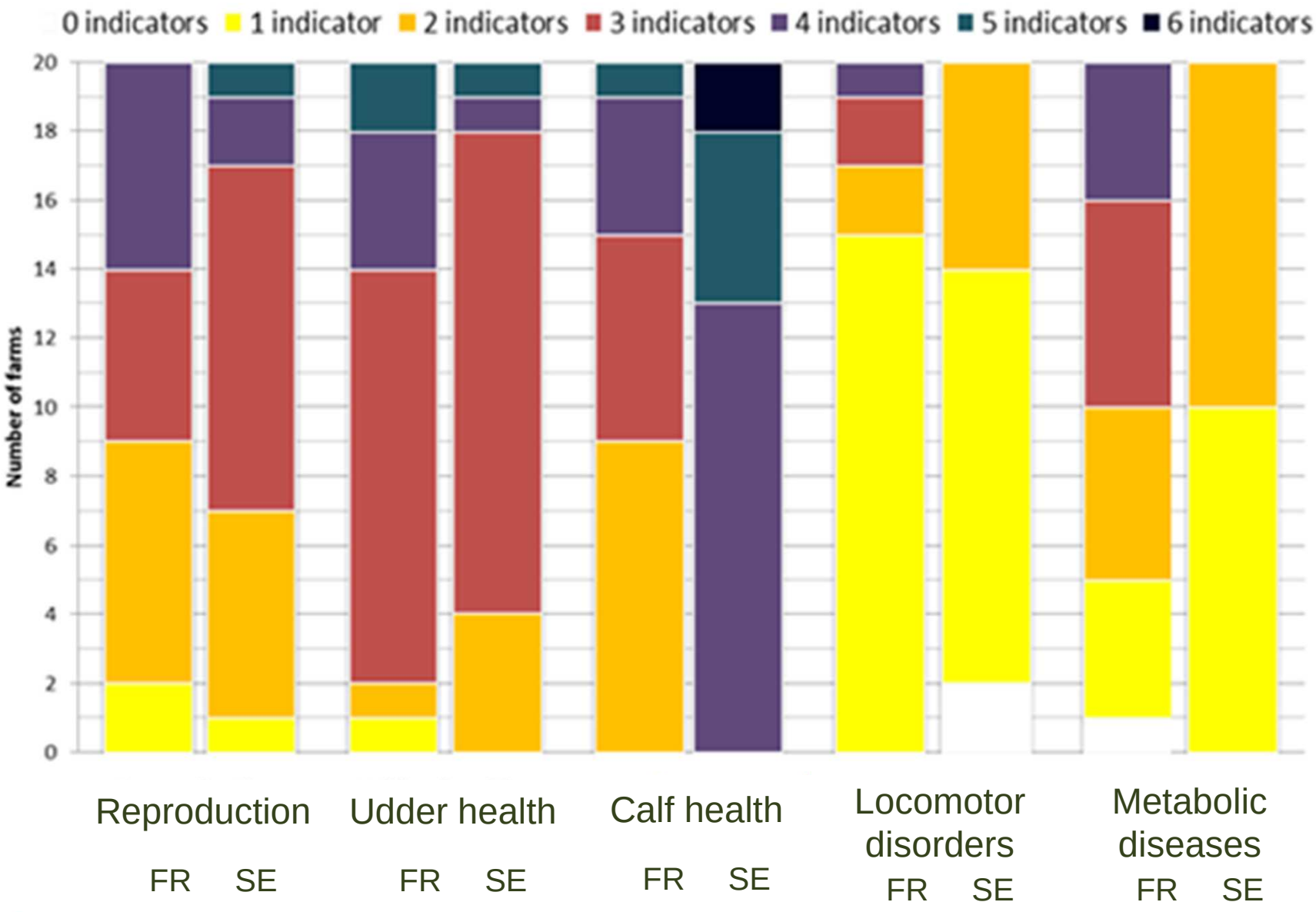
Discuss monitoring indicators already used

Discuss appropriateness indicators
as proposed by scientists
(5 health topics, 16 indicators)

1. **Adopt scientists' indicators**
2. **Propose alternative and/or additional indicators**
3. **No monitoring at all**

Co-construction of a farm specific herd health monitoring tool using a selection of indicators

Co-constructed monitoring tools



Distribution of the farms according to the number of indicators chosen per health topic

FR= France

SE= Sweden

Proposed and chosen indicators

Calf health	Health indicators	Alert threshold	Frequency
Proposed in the tool	Calf mortality, 0-24h	>1.25%	every 3 months
	Calf mortality, 1 day-weaning	>1.25%	every 3 months
	Occurrence of episodes of respiratory disease (yes/no)	>25%	every 3 months
Chosen by a farmer	**Unexplained** cases of calf mortality female 0-30 days (excluding mortality due to calving)	>2 unexplained cases	every 3 months
	Number of **cases of diarrhoea** (all types included)	>**2 cases** in a short period of time	every 3 months
	Number of **cases of respiratory problems**	>**2 cases** in a short period of time	every 3 months

Co-constructed monitoring tools

- Combination **unique to each farm** of indicators adopted for herd health monitoring
- **Not one farmer** accepts the combination of indicators exactly as proposed by scientists
- **Excellent uptake:** all farmers (except for 3 out of the 40) intend to monitor 5 health domains simultaneously

The preventive tool

- Overall iterative approach: prevention & reaction

Co-construction monitoring tool: farmer and advisor define farm specific indicators and alert thresholds to monitor herd health

Proactive herd health monitoring

Frequent monitoring of the herd health situation

3/4 times per year by the farmer and advisor

Herd health alert triggered

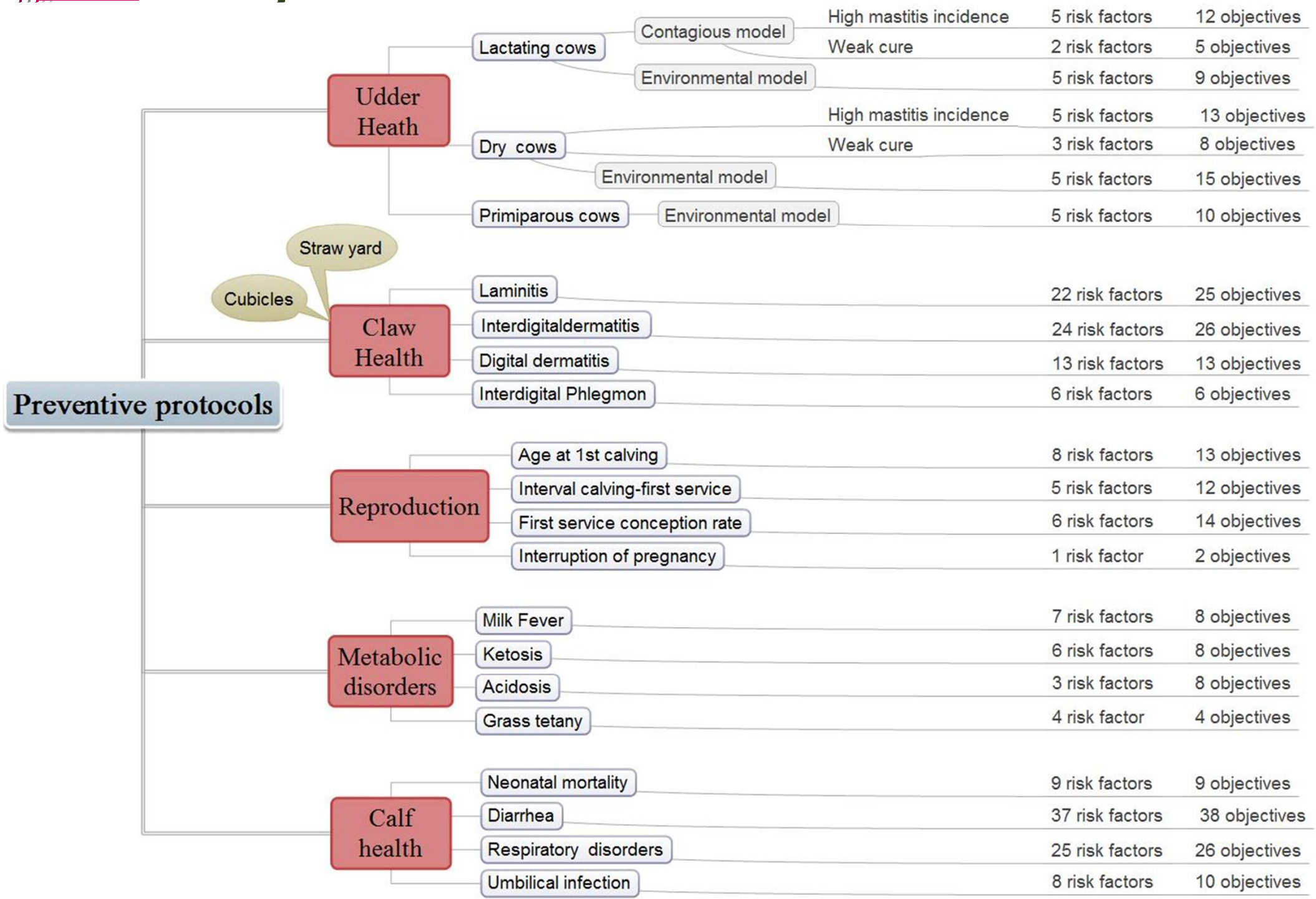
Reinforcement of the disease prevention protocols for the specific animal health problems

NO herd health alert triggered

Discuss disease prevention protocols of choice

*Characteristic of the prevention protocol = **objectives** to attain*

The preventive tool



The preventive tool

Udder Heath	Lactating cows	Contagious model	High mastitis incidence	5 risk factors	12 objectives
			Weak cure	2 risk factors	5 objectives
		Environmental model		5 risk factors	9 objectives
	Dry cows		High mastitis incidence	5 risk factors	13 objectives
			Weak cure	3 risk factors	8 objectives
		Environmental model		5 risk factors	15 objectives
	Primiparous cows	Environmental model		5 risk factors	10 objectives

Compliance to the protocols

	France	Sweden
Number of implemented visits/farm		
1	1	3
2	2	4
3	**2**	**8**
4	**12**	0
5	**1**	0
No data	*0*	*3*

Reasons for not fulfilling all visits:

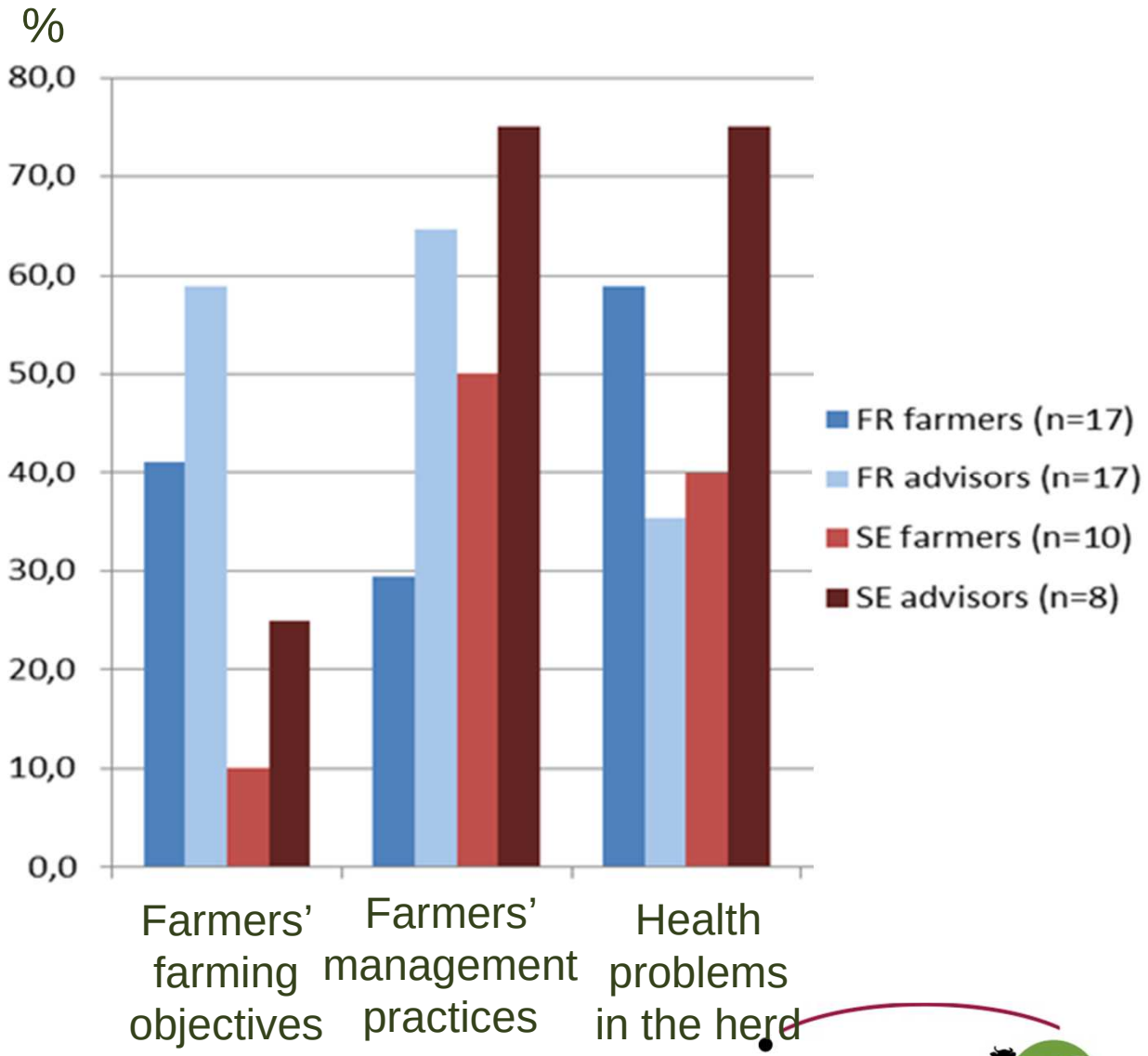
- Lack of time advisor (4)
- Farmer satisfied with the health situation (4)

When a visit was undertaken

- 89% **monitored** all the 5 health topics
- In case of a herd health alert
  → **Use** of a disease prevention protocol: 79%
  → Record of **recommendations**: 100% SE; 85% FR
  → Short-term **implementation** of all recommendations: 27% SE; 35% FR
- In case of no herd health alert **review** of prevention at some visits

Change in the relationship farmer/advisor

Improved awareness and understanding of the farm situation by advisors perceived by both farmers and advisors



Effectiveness of the tools

- Feed-back on the monitoring tool
  - Regular contact advisor/farmer
  - Early identification of health problems
  - Secure herd health
  - Better use of health data
- Feed-back on the prevention tool
  - Identify relevant risks in the farm
  - Identify corrective actions
  - Link management practice to health outcome
- Herd health improvement in the farms
  - Perceived effectiveness in contributing to herd health improvements by a majority end-users
  - Not (yet) measurable with indicators

Take home messages

- IMPRO has produced **two innovative and effective tools available for monitoring and prevention**
- Importance of the **participatory approach**

  Farmers participate in the tool adaptation for their own farm *(no 'one-size fits all')*
- Importance of the regular monitoring to early detect health deterioration + regular contacts farmer-advisor to dialogue on herd health and to adapt prevention

Thank you for your attention