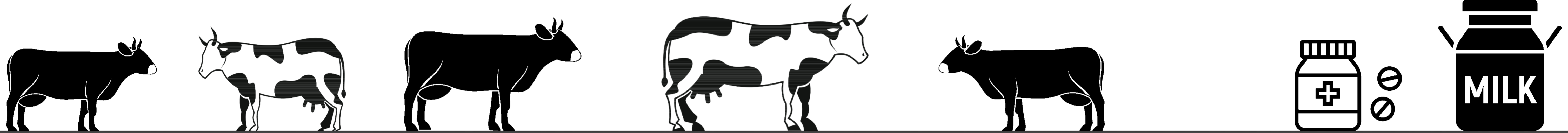




# SCC curves to support selection of cows for treatment at dry off using register data from Danish dairy cattle

Maj Beldring Henningsen, Matt Denwood, Carsten Thure Kirkeby, Søren Saxmose Nielsen



## BACKGROUND

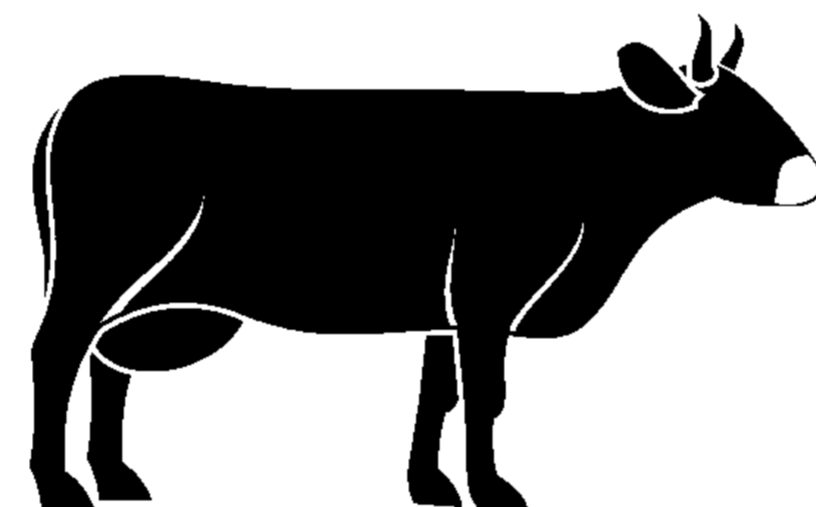
Antimicrobial resistance is a growing concern, so antibiotic consumption should be reduced without affecting animal welfare. Antimicrobial treatment at dry off is recommended based on a positive PCR test, however these can be misinterpreted

## PURPOSE

Use routinely recorded register data to investigate which cows are selected for treatment at dry off to reduce antimicrobial usage



**Data source:** Milk recording data from the Danish Cattle Database from 2010-2020

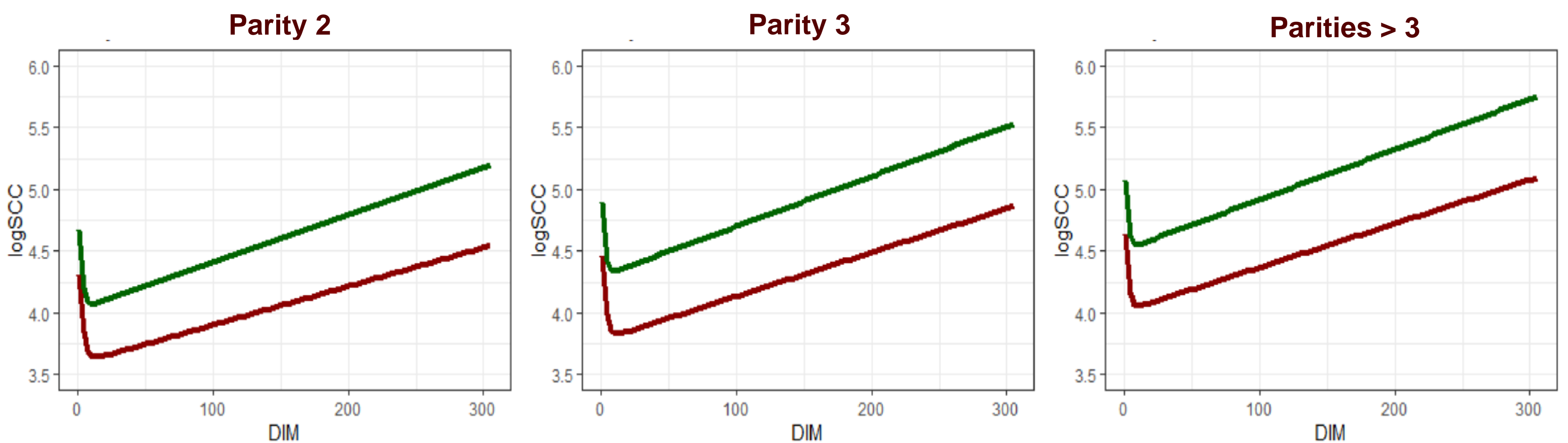


**Population:** 94,096 PCR-tested Danish Holstein cows in 2<sup>nd</sup> or higher parity from 1284 herds



**Methods:** Patterns are identified using a Big Data approach. SCC curves at herd level are created using the Wilmink function

**RESULTS:** SCC curves based on the Wilmink equation  $\logit(SCC) = a + b + \exp(-\exp(k)) \cdot DIM) \cdot d$ , grouped by parity. The green curve include only cattle tested positive for at least one of the dry off pathogens of interest; *S. aureus*, *S. agalactiae*, *S. dysgalactiae* or *S. uberis*. The red curve include only cattle tested negative.



## CONCLUSION

Cows that tested positive for one or more of the four major pathogens at the end of the lactation tend to have a higher SCC level throughout the lactation compared to animals that did not test positive