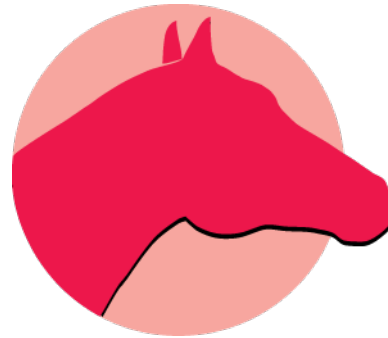


Equine Injury Database



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EID update - Helping to find “horses of interest”

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Outline

- Strategic aim
- Descriptive analysis of three years of EID data
- Models completed
- Focus on claiming races
- Potential next steps

Strategic aim and objectives

- To quantify the risk of fatal injury for individual horses on entering a race in North America
- Objectives of recent work
 - To validate previously developed models of fatal injury to examine their predictive ability
 - To identify which subset of the racing population can be most effectively identified as being at significant risk of injury

Descriptive analysis

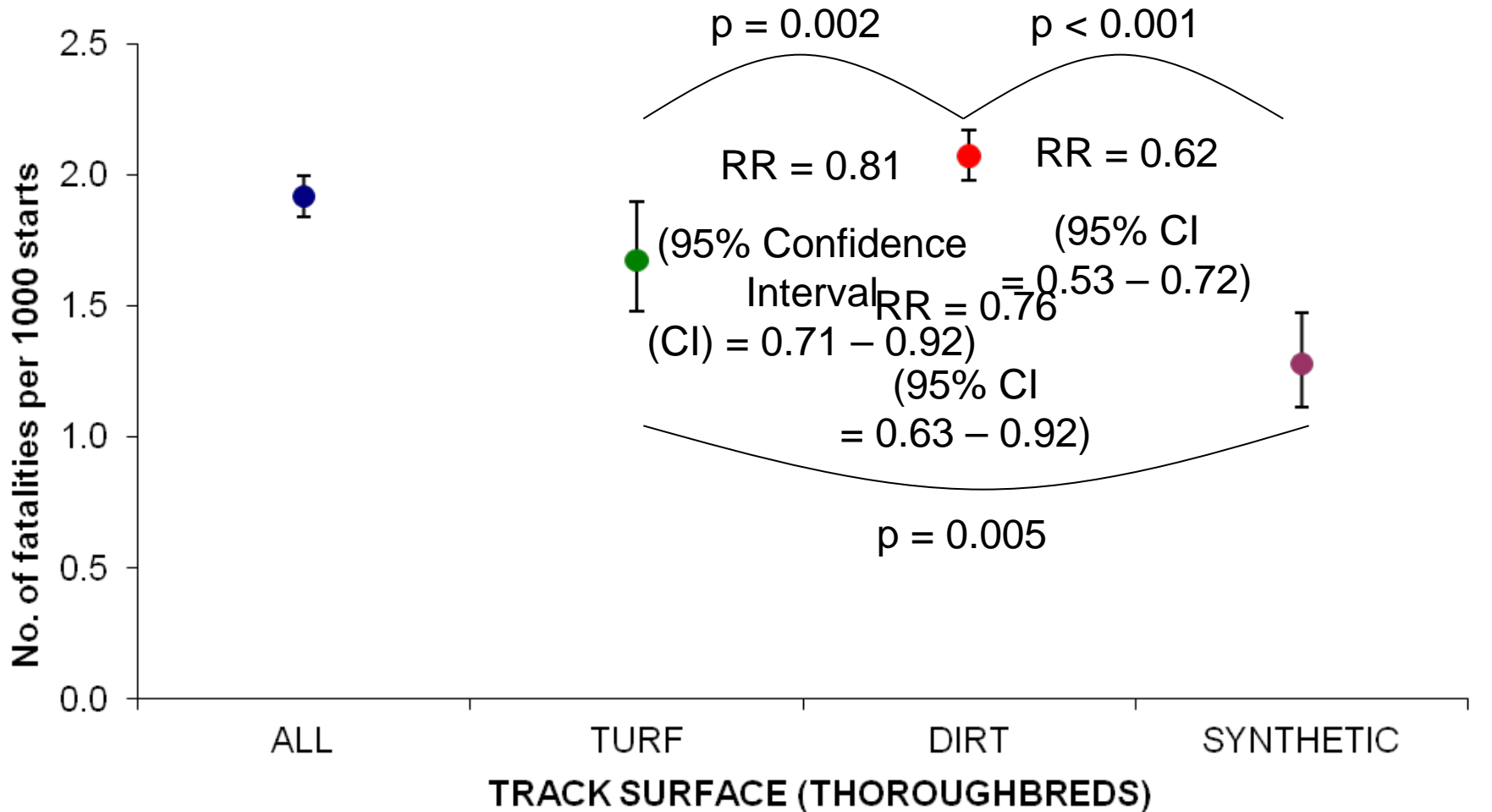
Participant numbers

- 89 flat tracks and the National Steeplechase Association
- 93% of all flat racing days (all steeplechases)
- 40,286 EID records

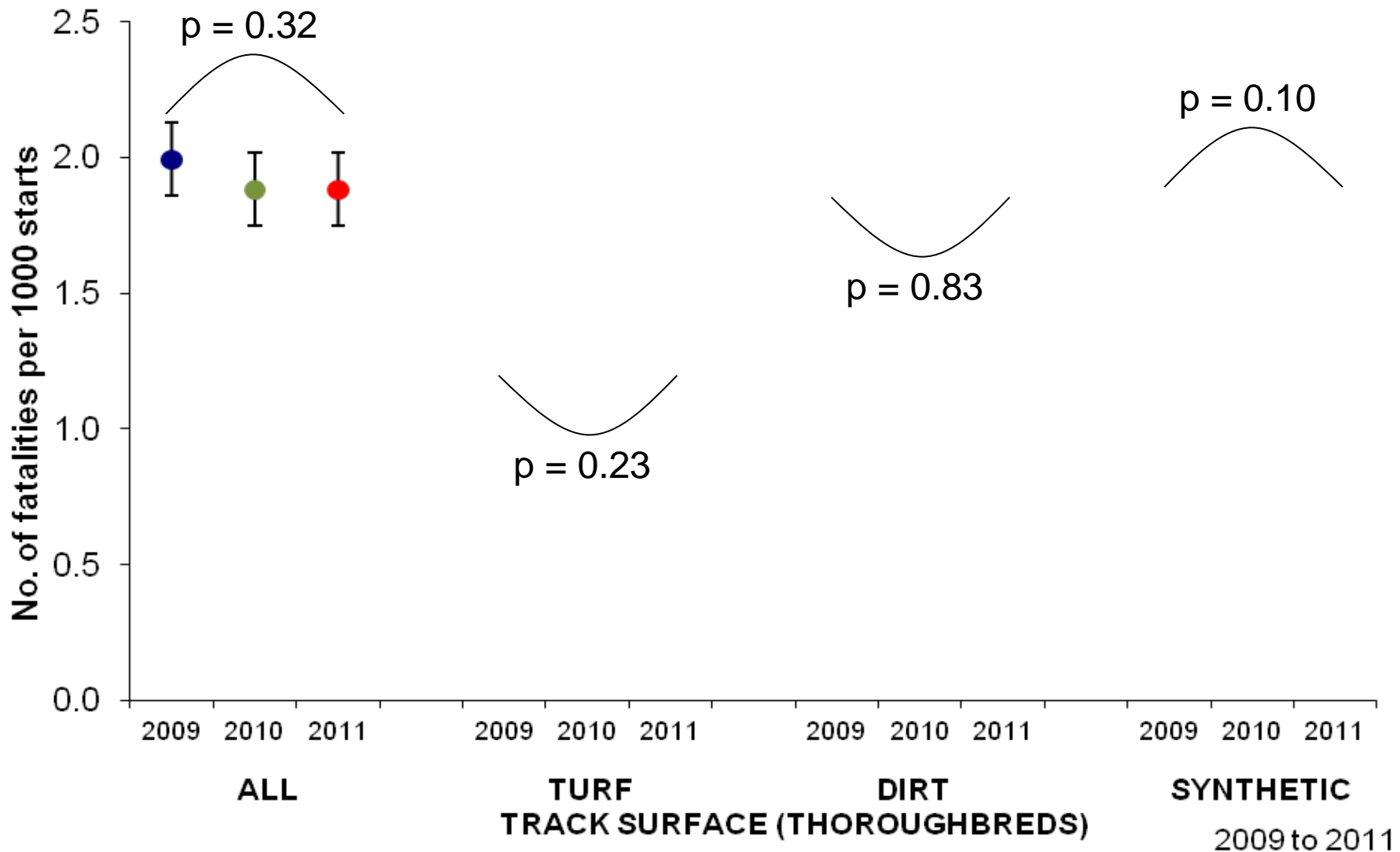
Definitions of race day fatalities

- Within 72 hours
- Estimates now by calendar year
- Point estimates and 95% confidence intervals
- Some changes since last EID descriptive report
 - The importance of:
 - waiting to acquire sufficient data
 - not taking a single year as being necessarily representative
- Now producing multivariable models that account for inter-relationships between variables

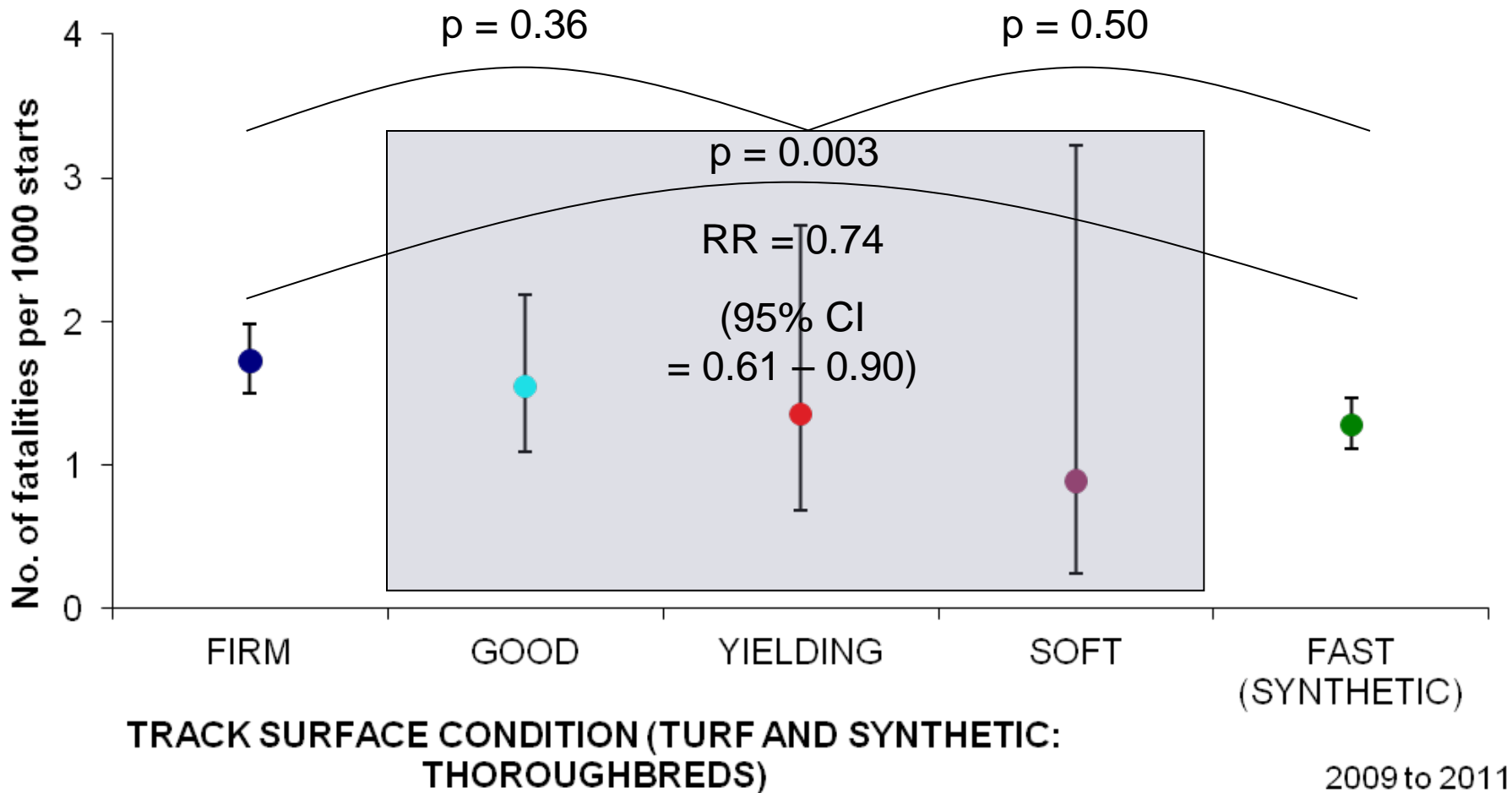
Incidence estimates by surface type



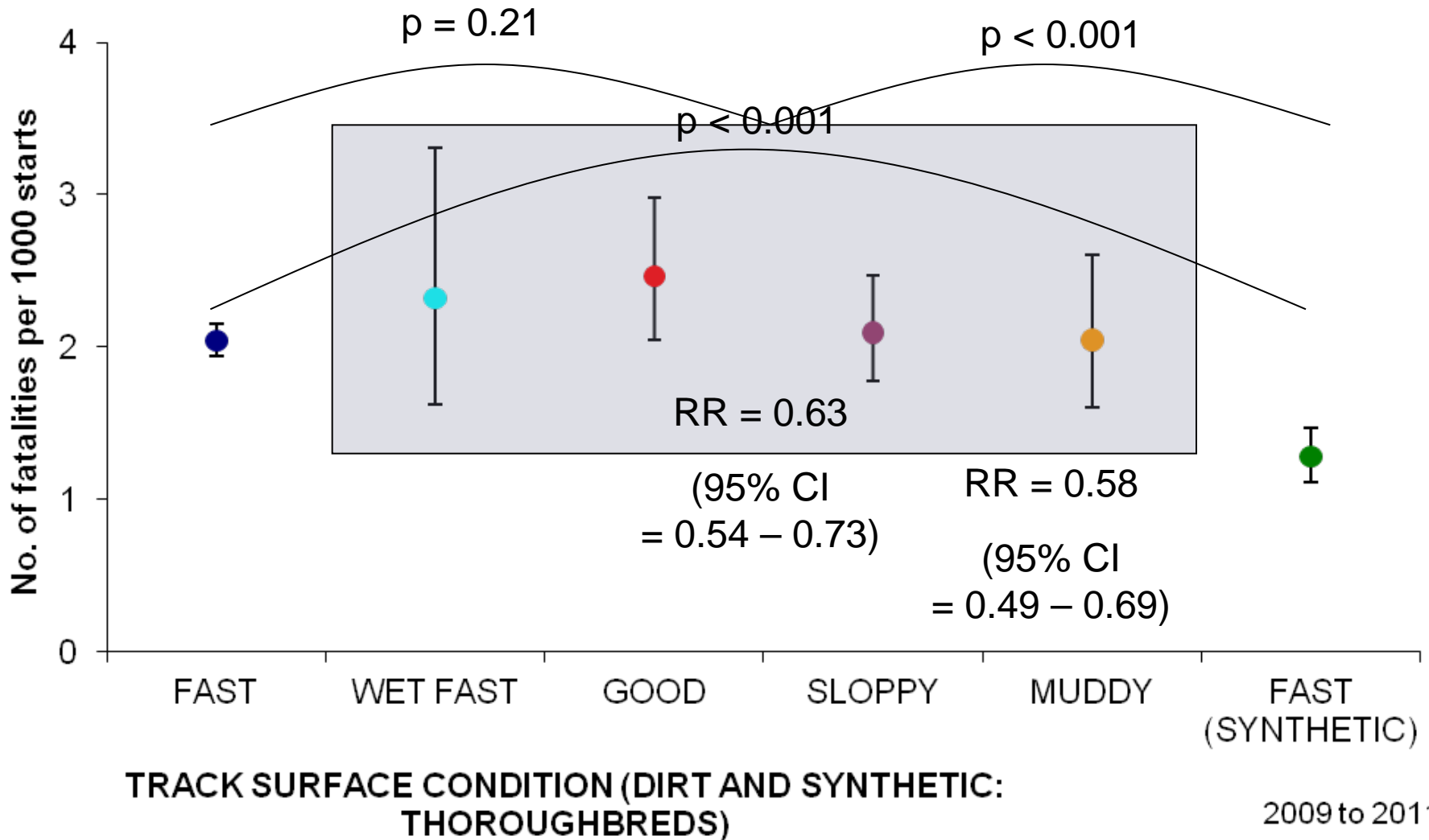
Incidence estimates by surface type for '09, '10 & '11



Incidence estimates by surface condition (turf & synthetic)



Incidence estimates by surface condition (dirt & synthetic)



Models completed

- 2008-2010 model for fatal distal limb fracture
 - Version 1 (summer of 2011)
- 2008-2010 model for fatal distal limb fracture
 - Version 2 (summer of 2012)
- 2008-2010 model for fatal distal limb fracture in claiming races only
 - (summer of 2012)

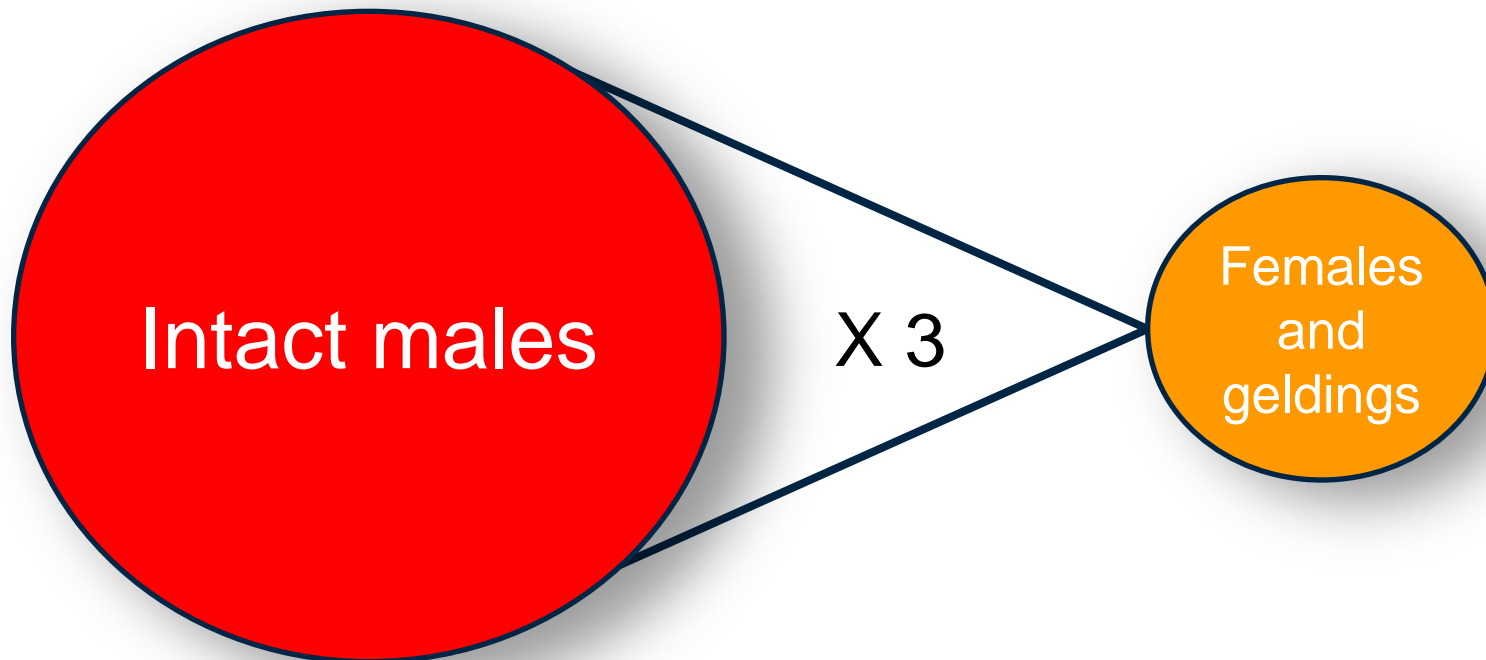
A focus on claiming races

- Risk of catastrophic lower limb fracture in a claiming race is 1.8 times the risk in a non-claiming race
- A number of significant risk factors
- Presenting the 7 most important
- How we may be able to use this information

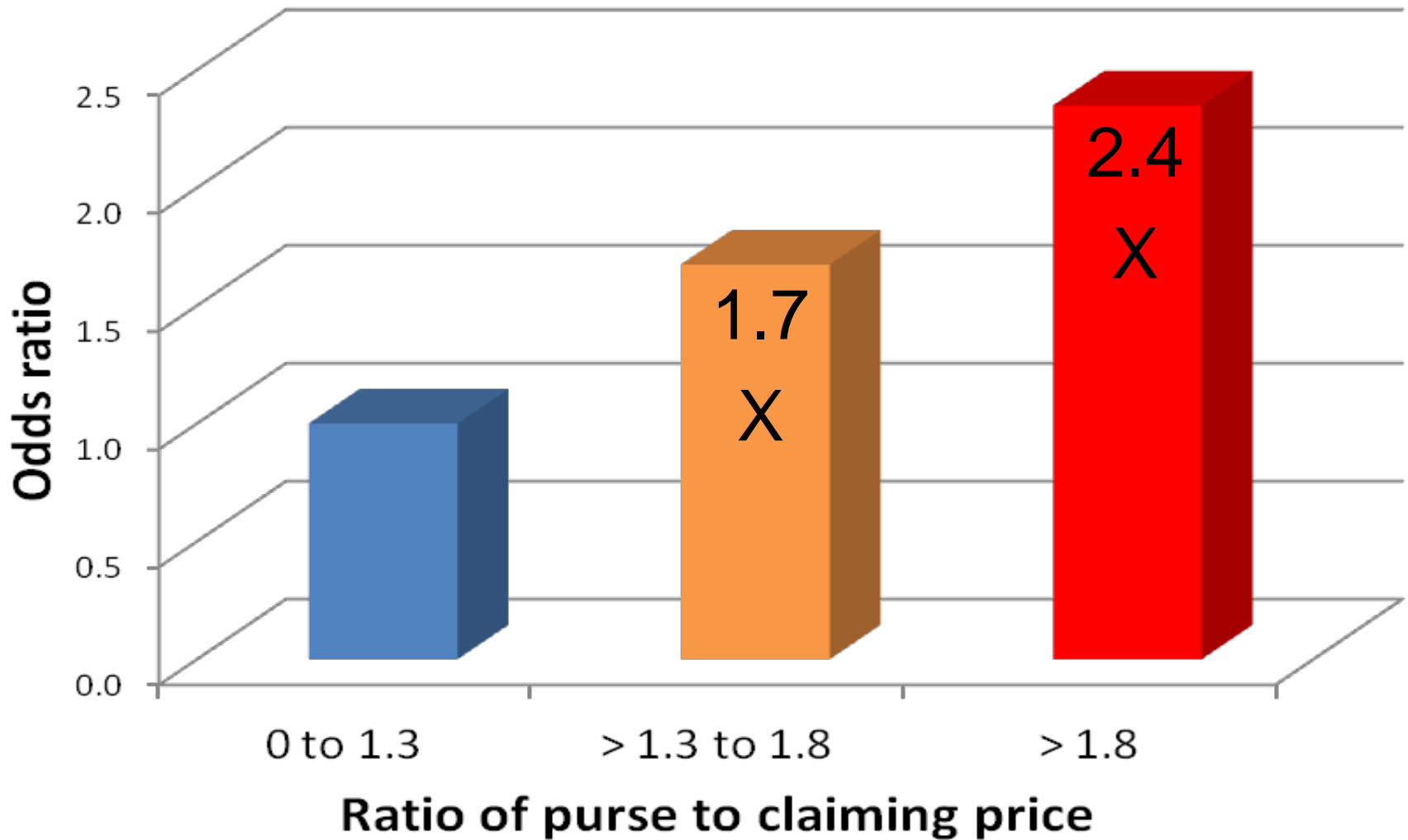
Risk factors for fatal distal limb fracture in claiming races

1. Intact male
2. Ratio of purse to claiming price
3. Current age
4. Size of drop in claim price since last race
5. Raced in the last two weeks
6. Number of starts within the previous 15-30 days prior to the current race
7. Being within 3 races of a 180+ day break from racing

Sex



Ratio of purse to claiming price



Current age

2-year old



\geq 3-year old



Double drop in claiming price since last race



Increase in claim price
since last race

Reference

- NOTE: Group of tracks on a “circuit” at which the same horses are likely to appear with similar claiming price structure

X 1.6

- With [unclear] weeks & the two weeks prior to that

No race in last 2-weeks & 0 or 1 race in 2-weeks before that

Raced in last 2-weeks & 0 or 1 race in 2-weeks before that

X 2

X 3.3

No race in last 2-weeks & raced at least twice in 2-weeks before that

Raced in last 2-weeks & raced at least twice in 2-weeks before that

Races since a 180+ day break from racing

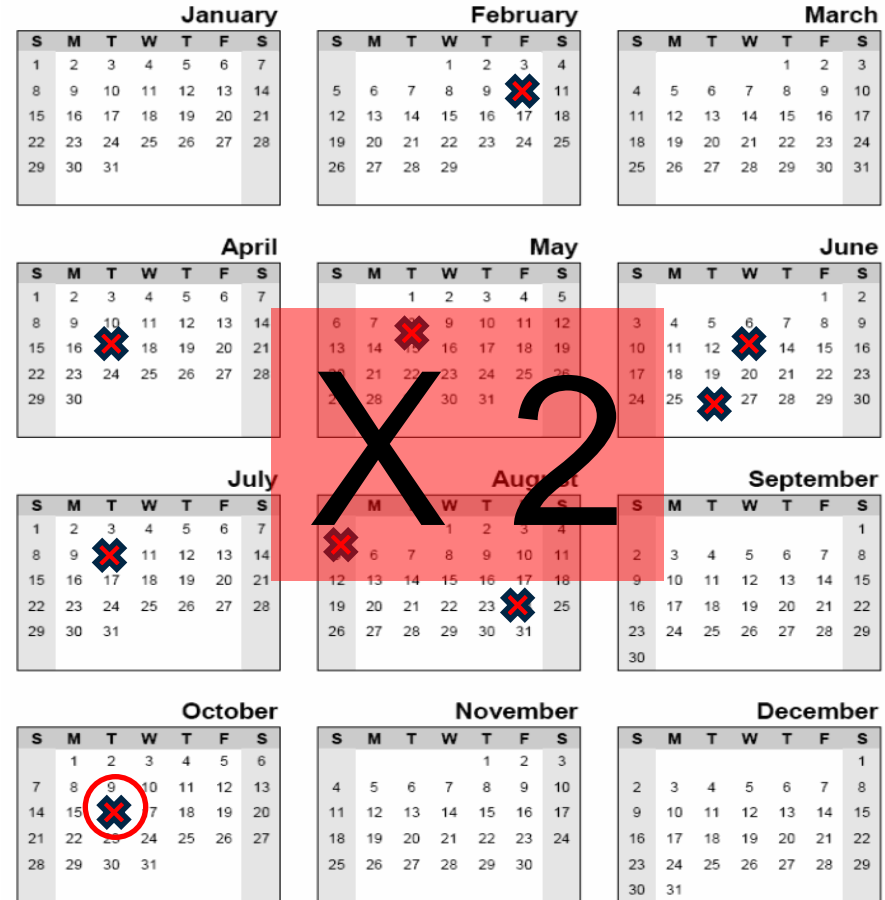
Horse A

2012



Horse B

2012











211 day break in racing








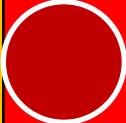
How could we use this information at the track?

- Combine these and other risk factors together
- Emphasise the more important risk factors
- Generate an “overall” estimate of the degree of interest that the regulatory veterinarian should show in any particular horse start
- A further tool to aid the use of pre-race veterinary examinations

Horse A

Risk factor	Not of interest	Possibly of interest	Definitely of interest
Sex			
Ratio of purse to claiming price			
Age			
Drop in claiming price since last race			
Number of starts within 15-30 day period prior to race			
Raced in the last 2-weeks			
Start within 3 races of a 180 day break in racing			
Overall			

Horse B

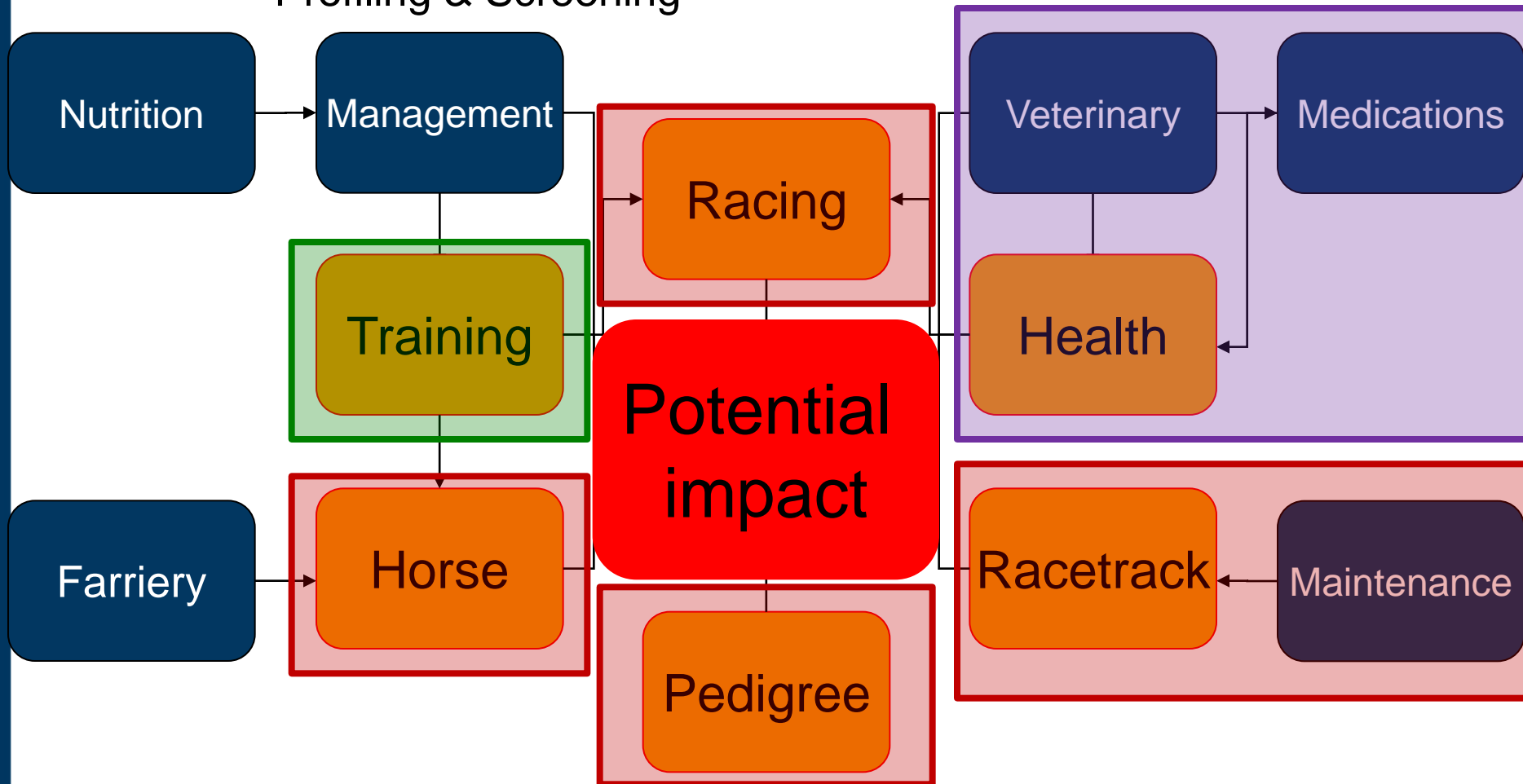
Risk factor	Not of interest	Possibly of interest	Definitely of interest
Sex			
Ratio of purse to claiming price			
Age			
Drop in claiming price since last race			
Number of starts within 15-30 day period prior to race			
Raced in the last 2-weeks			
Start within 3 races of a 180 day break in racing			
Overall			

Note and further work

- Approximately 50-60 fold increase in risk between lowest and highest risk starts
 - However, will still be very small risk (~1-3%)
- Further work
 - Models for stakes races and for different outcomes
 - E.g. Triage score 2+
 - Validate the predictive ability of all models

Need for multiple data platforms

- To maximise predictive ability and IMPACT of
 - Profiling & Screening



Acknowledgements

- US Jockey Club
 - Matt Iuliano
 - Kristin Werner Leshney
- University of Glasgow
 - Richard Reardon