

EID racing fatalities by surface and track condition analysis

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Introduction

This analysis summarises the incidence of musculoskeletal fatalities (i.e., not including sudden deaths) in the years 2021 and 2022, by track condition on each of two surface types.

The study cohort was all horse starts from 1st January 2021 to 31st December 2022, and the outcome of interest was all musculoskeletal fatalities within three days of racing.

Dirt surfaces

The table below shows the number of race starts on Dirt, number of fatalities, and fatalities per 1,000 starts (incidence) for each track condition recorded in the EID. The 95% confidence interval of the incidence is also shown. There were no statistically-significant differences in the incidences associated with different track conditions.

track condition	starts	fatalities	fatalities per 1,000 starts	95% confidence interval
Fast	308954	419	1.36	1.23 - 1.49
Frozen	29	0	0.00	0 - 116.97
Good	22147	38	1.72	1.25 - 2.35
Heavy	95	0	0.00	0 - 38.87
Muddy	17936	22	1.23	0.81 - 1.86
Sloppy	25085	36	1.44	1.04 - 1.99
Slow	58	0	0.00	0 - 62.12
Wet Fast	2541	3	1.18	0.4 - 3.47

Figure 1 shows the data from the table of incidence of fatalities on Dirt, omitting track conditions recorded as 'Frozen', 'Heavy', and 'Slow' because zero fatalities occurred on those conditions in the study cohort.

Fatalities per thousand starts on Dirt by track condition in 2021-2022

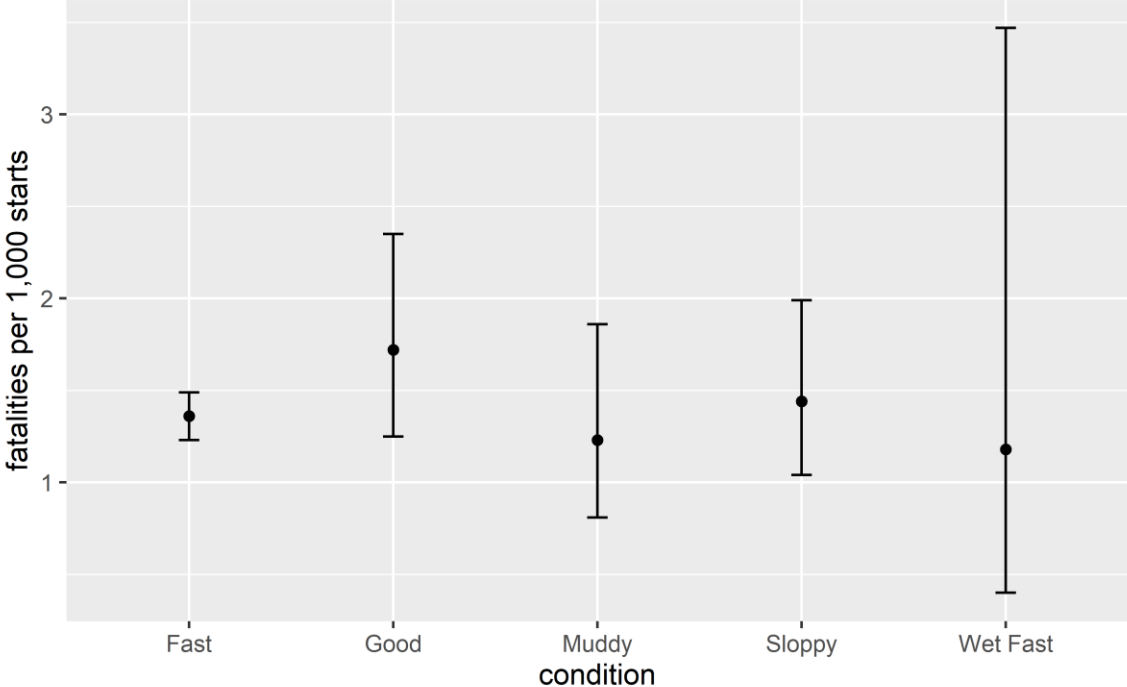


Figure 1: Incidence of fatalities on Dirt surfaces, by track condition.

Turf surfaces

The table below shows the number of race starts on Turf, number of fatalities, and fatalities per 1,000 starts (incidence) for each track condition recorded in the EID. The 95% confidence interval of the incidence is also shown. There were no statistically-significant differences in the incidences associated with different track conditions.

track condition	starts	fatalities	fatalities per 1,000			95% confidence interval
			starts	LCI	UCI	
Firm	81434	91	1.12	0.91	1.37	0.91 - 1.37
Good	12542	9	0.72	0.38	1.36	0.38 - 1.36
Soft	175	0	0.00	0.00	21.48	0 - 21.48
Yielding	1567	2	1.28	0.35	4.64	0.35 - 4.64

Figure 2 shows the data from the table of incidence of fatalities on Turf, omitting track conditions recorded as 'Soft' because zero fatalities occurred on those conditions within the study cohort.

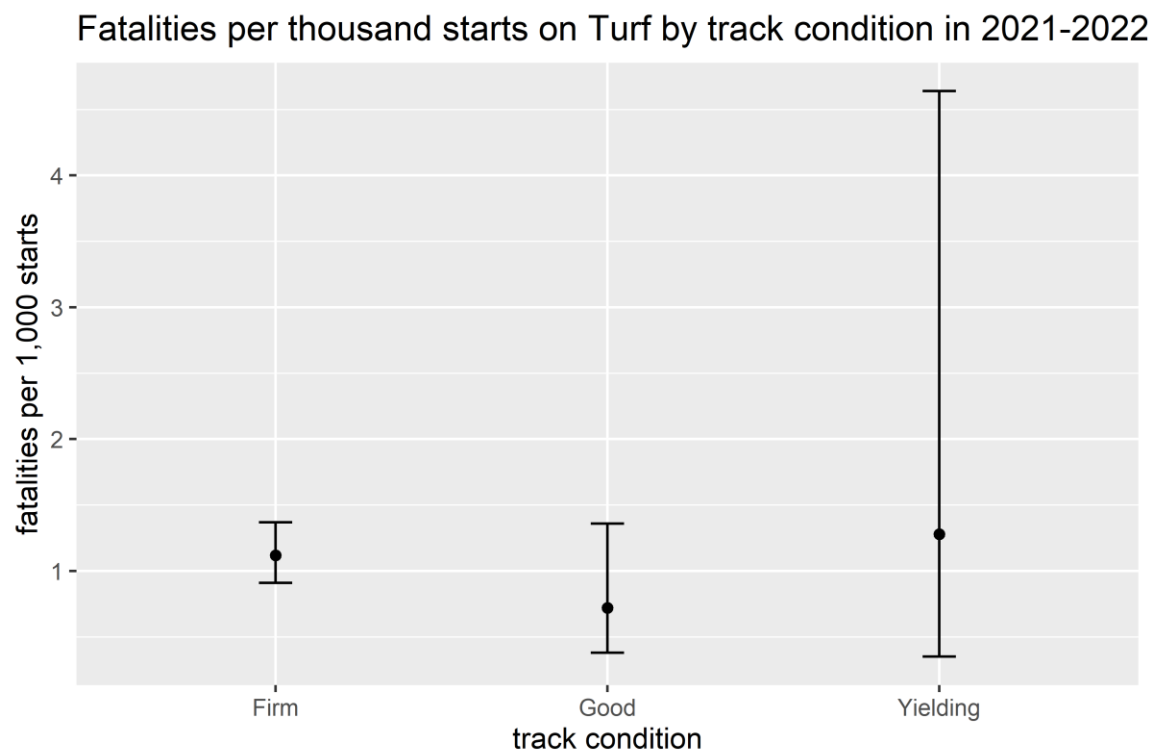


Figure 2: Incidence of fatalities on Turf surfaces, by track condition.

Conclusions

For the two years of data studied - 2021 and 2022 - there were no statistically-significant differences in incidence of fatality found to be associated with track condition on either Dirt or Turf surface types.

Note that Synthetic surface types were not included in this analysis, because the track condition for all race starts on Synthetic are recorded in the EID as 'Fast'.

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