BASEBALL EXAMPLE

- Batting averages
- p is the probability that an attempted hit is successful.
- We can estimate the season long avg. of a player using a small sample in the beginning of the season.

ML estimate:

$$\hat{p} = N_{hits}/N_{attempts}$$

HYPER PARAMETERS

- We want to introduce some dependency between the different player's avgs.
- This allows the information in the joint distribution of all players to inform individual estimates.
- All estimates p_i come from the same distribution, and, therefore, depend on each other.

Data:

- y_i: number of hits
- n_i: number of attempts

Model:

$$y_i \sim Binomial(n_i, p_i)$$

$$p_i \sim Beta(\nu_1, \nu_2)$$

$$\nu_1, \nu_2 \sim lognormal(0,1)$$