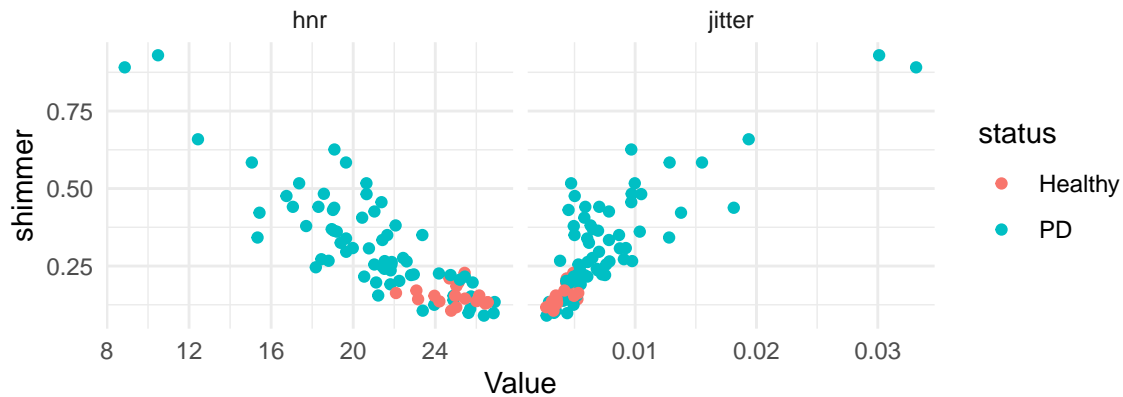


# Multiple Linear Regression (MLR)

Want to understand what might help explain the voice **shimmer** of a patient with low vocal fundamental frequency.



## Model 1

Multiple linear regression model:

```
shimmer_lm <- lm(shimmer ~ hnr + jitter, data = pd)
```

term	estimate	std.error	statistic	p.value
(Intercept)	0.732	0.091	8.022	0.0e+00
hnr	-0.025	0.004	-7.066	0.0e+00
jitter	13.467	2.574	5.232	1.2e-06

Fitted model:

Interpretation of:

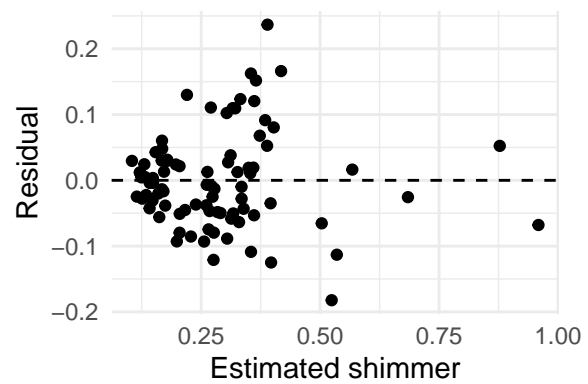
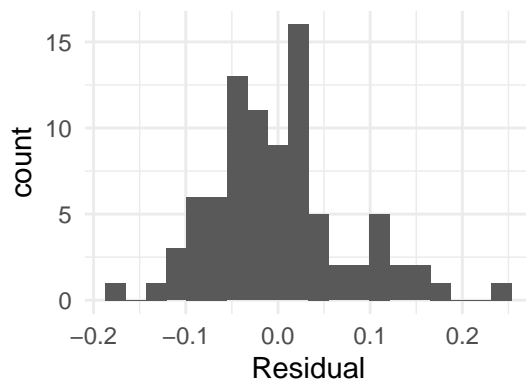
- Intercept:

- Remaining coefficients:

Model 1 fit

r.squared	adj.r.squared
0.807	0.8024

Conditions



Inference

- Hypotheses:

- Which variables seem to be associated with shimmer? Why?

## Model 2

Let's see a model that now includes the **status** of the patient as a predictor:

```
shimmer_lm2 <- lm(shimmer ~ hnr + jitter + status, data = pd)
```

term	estimate	std.error	statistic	p.value
(Intercept)	0.688	0.103	6.668	0.0000000
hnr	-0.024	0.004	-6.273	0.0000000
jitter	13.662	2.585	5.285	0.0000010
statusPD	0.020	0.022	0.915	0.3628131

Fitted model:

Interpretation of:

- Intercept:
- Remaining coefficients:

Model 2 fit

r.squared	adj.r.squared
0.807	0.8024

Which model seems “better”, and why?