

# (PAIN CLINIC)

First: learning (training) sample  
2/3 randomised

test (hold-out) sample: 1/3

Second: leave one out  
learning: all the others  
test: one individual

Nonpar. repr:  $B, V, A, U$  given

$B \rightarrow Z_b$

$$E(Z_b | B) \stackrel{?}{=} E(Z_b | B, V, A, U)$$

$U, V \rightarrow X_b$

$$E(X_b | U, V) \stackrel{?}{=} E(X_b | U, V, A, B)$$

$X_b \rightarrow X_a$

$$E(X_b | X_a) \stackrel{?}{=} E(X_b | X_a, A, U, V)$$

$A, Z_b \rightarrow Z_a$

$$E(Z_a | Z_b, A) \stackrel{?}{=} E(Z_a | Z_b, A, U, V)$$

$Z_a \rightarrow Y$

$$E(Y | Z_a) = E(Y | Z_a, Z_b, X_a, X_b, U, V, A, B)$$

Compare the results to - original data

linear repr.

logistic repr  $\ln \frac{p}{1-p} = a_0 + a_1 x_1 + \dots + a_k x_k, \quad p = P(Y=1)$