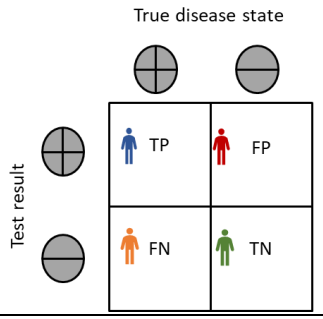
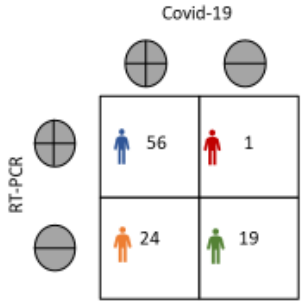
Definitions and formulae for calculating measures of test accuracy

2x2 table based on a pretest probability of 80%

Accuracy Measure	Definition	General table and formulae	Example: RT-PCT test for COVID-19
			
True positives (TP)	People with covid-19 who have a positive test result	TP	56
True negatives (TN)	People without covid-19 who have a negative test result	TN	19
False positives (FP)	People without covid-19 who have a positive test result	FP	1
False negatives (FN)	People with covid-19 who have a negative test result	FN	24
True positive rate (TPR):	Sensitivity - Proportion of people with covid-19 who have a positive test result	TP/(TP + FN)	56/(56+24)=70%
True negative rate (TNR)	Specificity - Proportion of people without covid-19 who have a negative test result	TN/(FP+ TN)	19/(19+1)=95%
False negative rate (FNR)	Proportion of people with covid-19 who have negative test result	FN/(TP + FN)	24/(56+24)=30%
False positive rate (FPR)	Proportion of people without covid-19 who have positive test result	FP/(FP+ TN)	1/(24+1)=5%
Positive predictive value (PPV)	Post-test probability that a person with a positive test result has covid-19	TP/ (TP+FP)	56/(56+1) = 98%
Negative predictive value (NPV)	Post-test probability that a person with a negative test result does not have covid-19	TN/(FN+TN)	19/(24 + 19) = 44%
Likelihood ratio (LR)	The proportion of people with covid-19 with a given test result (either positive or negative) divided by the proportion of people without COVID-19 with that result	LR(+) = TPR/FPR	0.70/ 0.05 = 14
		LR(-) = FNR/TNR	0.30/0.95 = 0.32