

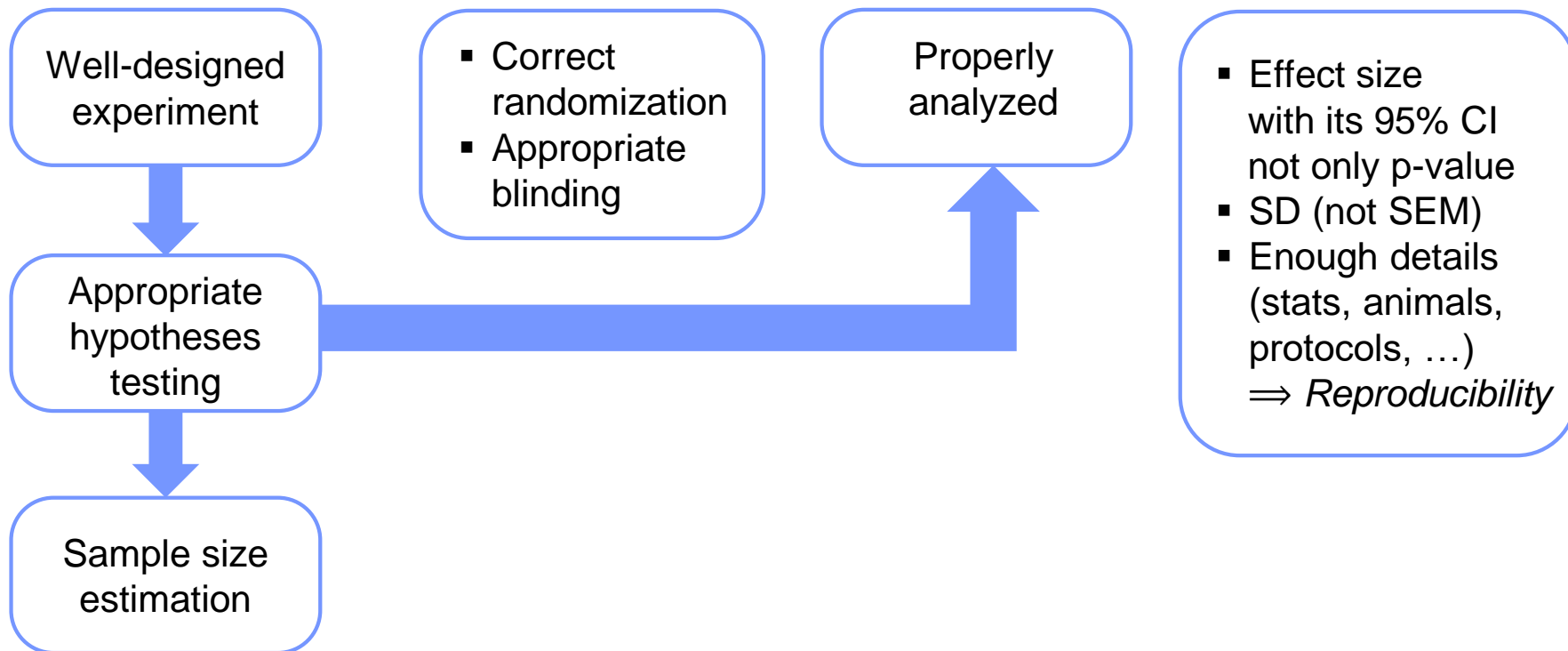
# Roadmaps

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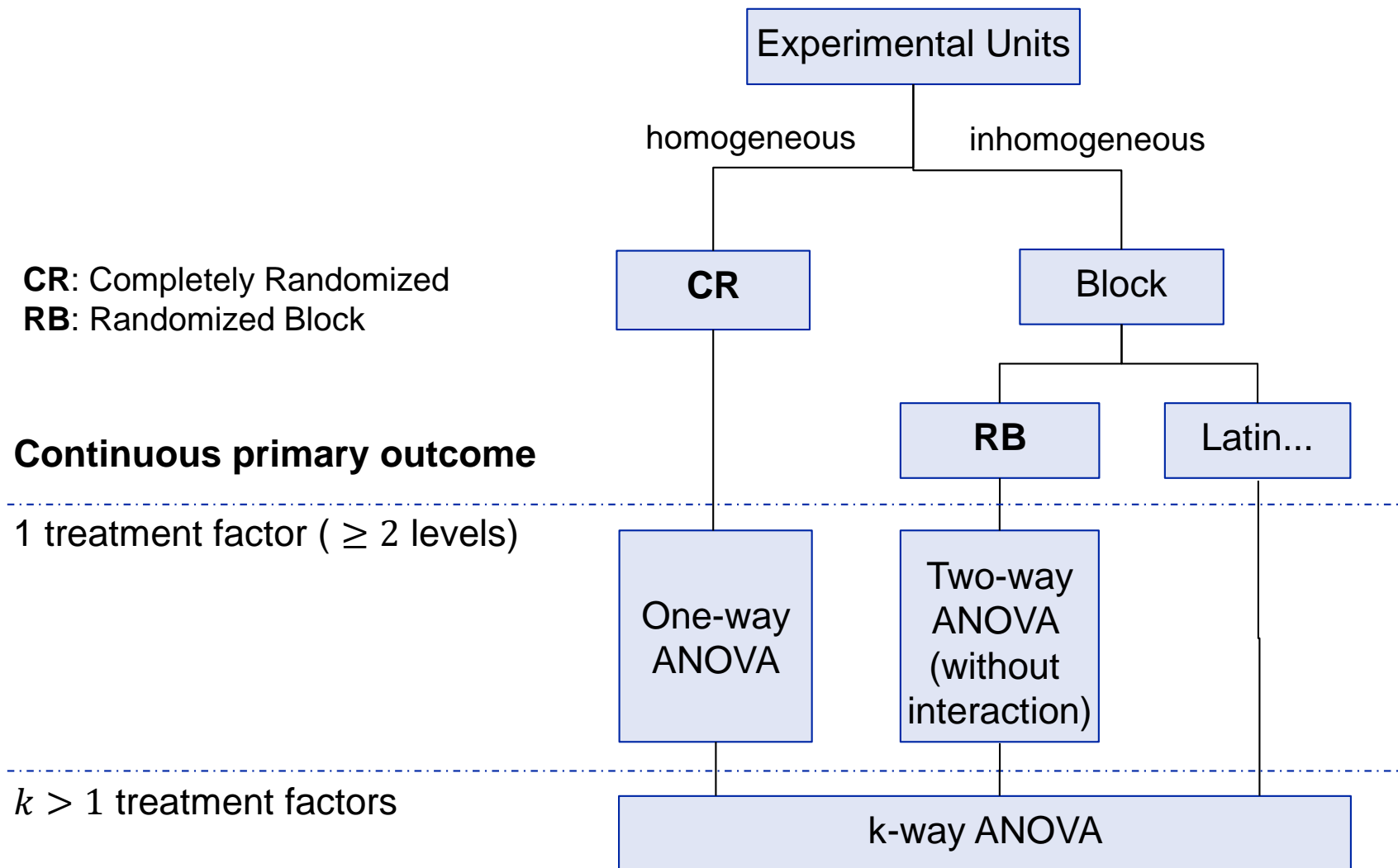
- Good statistics: start from the beginning
- Simplified road map of design and analysis
- Type of primary outcome determines the analysis

# Good statistics: start from the beginning...to the end

**PREPARE** before you **ARRIVE**



# Simplified road map of design and analysis



# Type of primary outcome determines the analysis

Primary outcome	Number of treatment factors			Type of analysis
	One factor $t$ levels	Two factors levels $t_1$ & $t_2$	$k > 2$ factors $(t_1, t_2, \dots, t_k)$	
Continuous (comparing means)	1-way ANOVA	2-way ANOVA	$k$ -way ANOVA	ANOVA $F$ test
Categorical with $c$ levels (comparing proportions)	Two-way table ( $t \times c$ )	Three-way table ( $t_1 \times t_2 \times c$ )	$(k+1)$ -way table ( $t_1 \times \dots \times t_k \times c$ )	Contingency table $\chi^2$ test (or logistic reg.)
Time-to-event (comparing 'survival' curves)	Kaplan-Meier			Survival Analysis log rank test

## Examples of outcome type

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Continuous	weight gain, tendon retraction, blood flow rate
Categorical	occurrences of disease (proportion of yes and no), success or failure, small/medium/large weight gain
Time-to-event	time to appearance of a disease, time to surrogate-death, time to effect, latency time