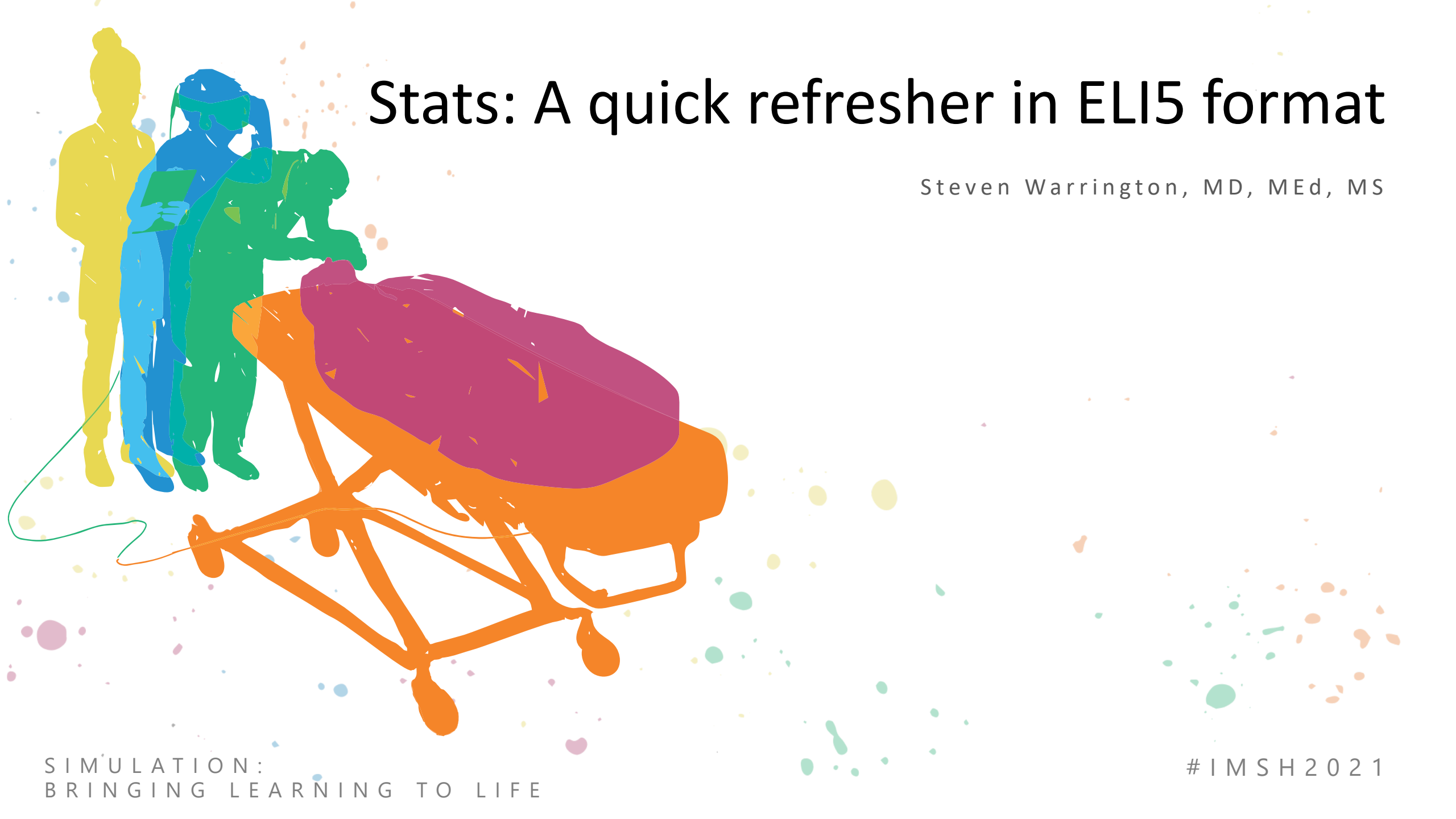


Stats: A quick refresher in ELI5 format

Steven Warrington, MD, MEd, MS



SIMULATION:
BRINGING LEARNING TO LIFE

#IMSH2021



WELCOME

Steven Warrington

EM physician
Prior residency director
MS in biomedical informatics
MEd in Health Professions
PhD candidate

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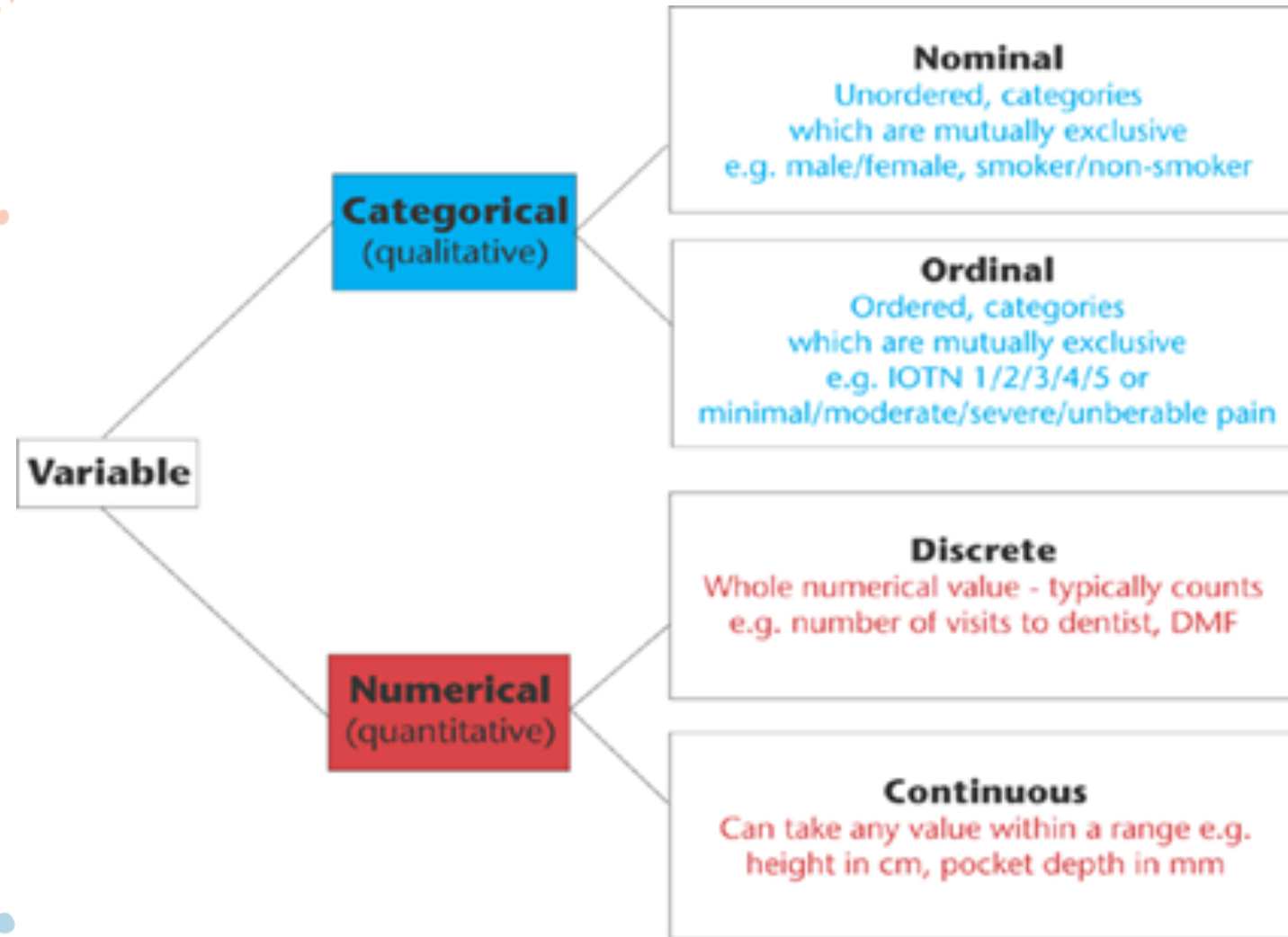
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Stats: ELI5

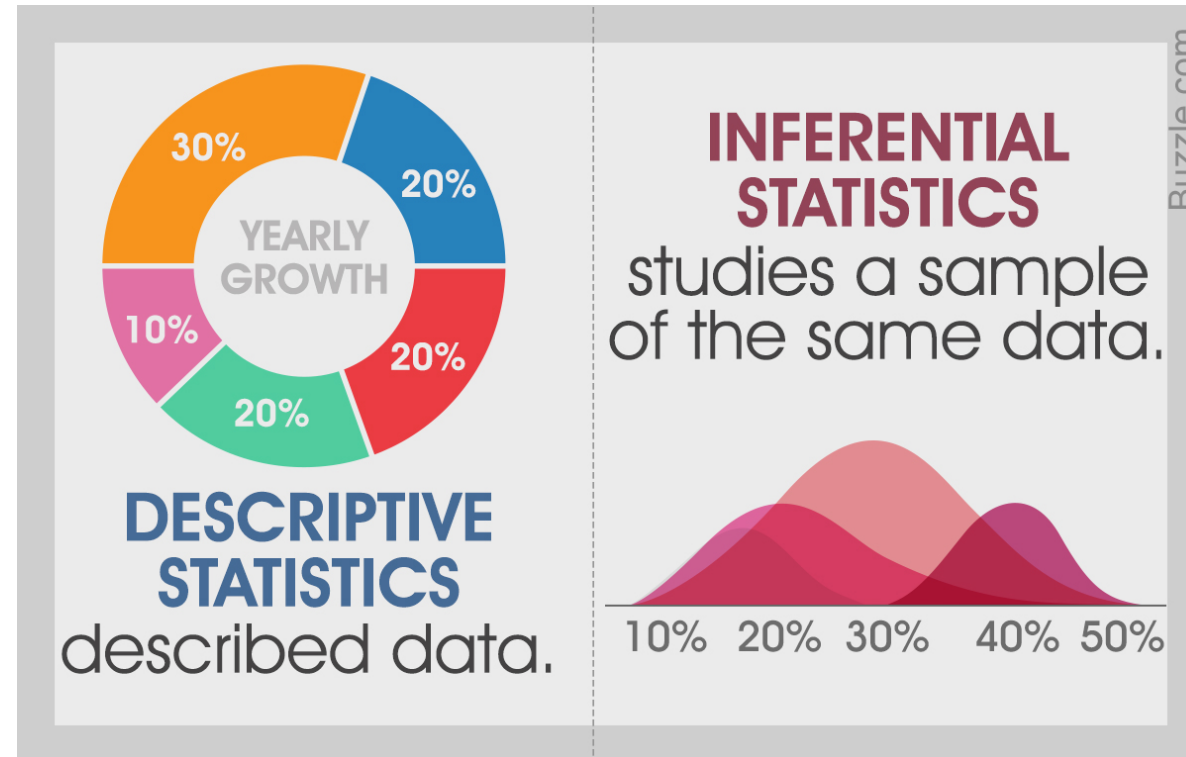
Objective:

- 1) Identify types of measurements
- 2) Discuss basics of Descriptive vs Inferential Statistics
- 3) Describe Parametric and Non-Parametric Statistics

Stats: ELI5



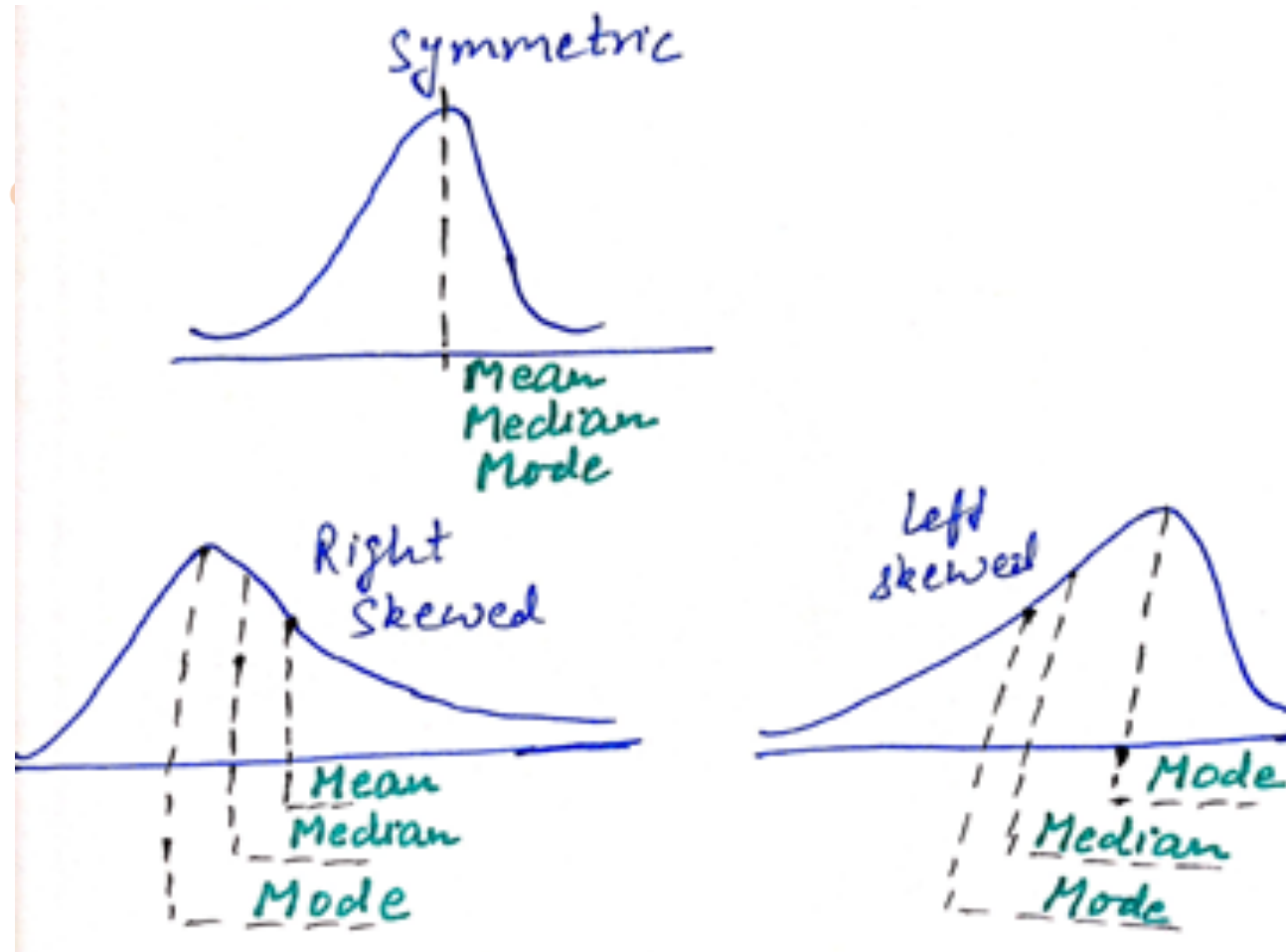
Stats: ELI5



Stats: ELI5

Parametric	Nonparametric
• Require interval/ratio data • Normal distributions • Usually equal variance • Other requirements	• Nominal, ordinal or interval data • Skewed or unknown distributions • Unequal variances • When other parametric requirements are not met

Stats: ELI5



Attribute Data

Attribute Data

One Factor

Two Factors

One Sample

Two Samples

Two or More Samples

One Sample Proportion

Two Sample Proportion

Chi Square Test (Contingency Table)

SigmaXL>Statistical Tools>Basic Statistical Templates> **1**
Proportion Confidence Interval

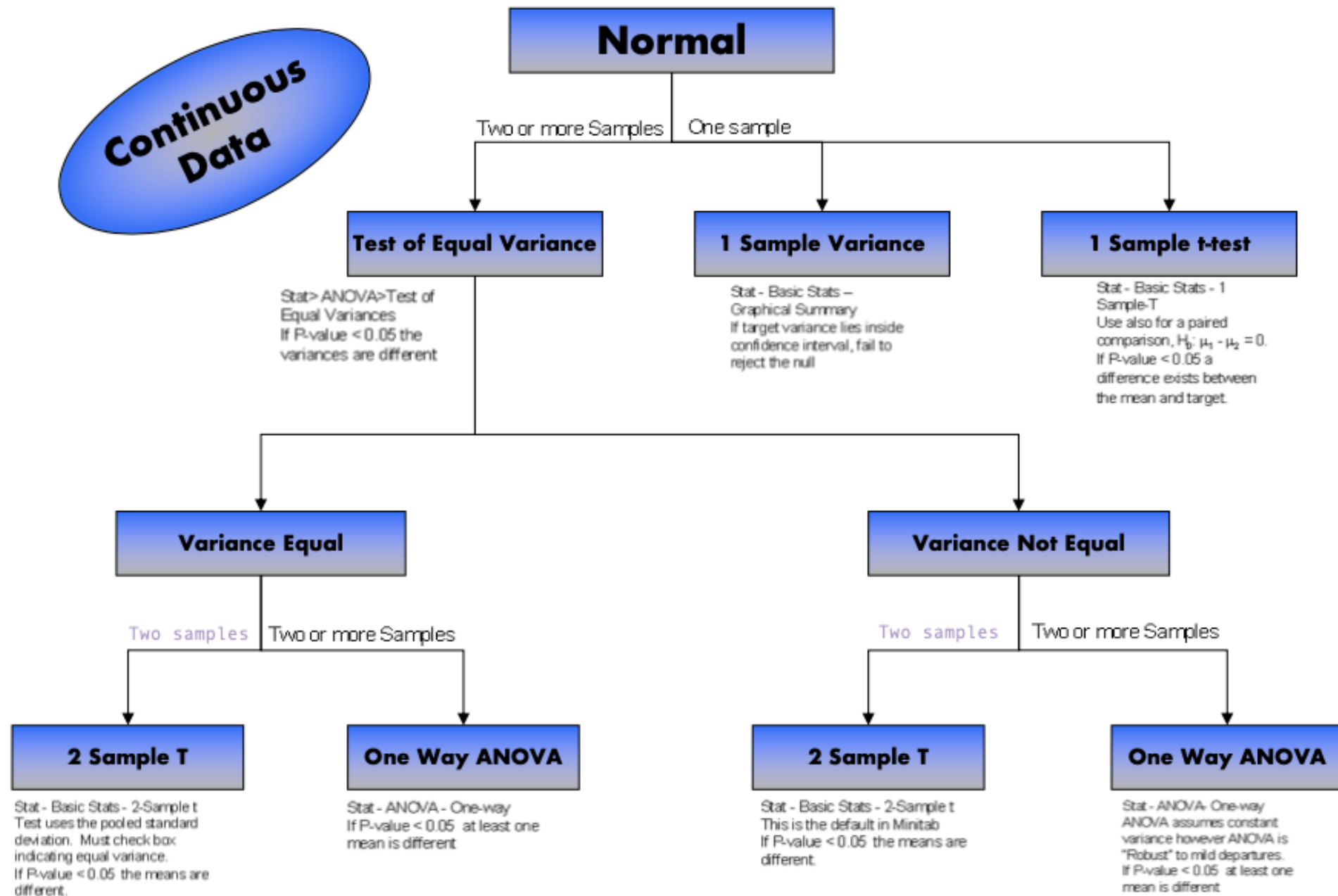
SigmaXL>Statistical Tools>Basic Statistical Templates> **2**
Proportion Test & Fisher's Exact
If P-value < 0.05 the proportions are different

For Stacked Column Format:
SigmaXL> Statistical Tools> **Chi-Square Test For Two-Way** or Pivot Table Format:
SigmaXL>Statistical Tools>Chi-Square Test - Two-Way Table Data
If P-value < 0.05 at least one proportion is different

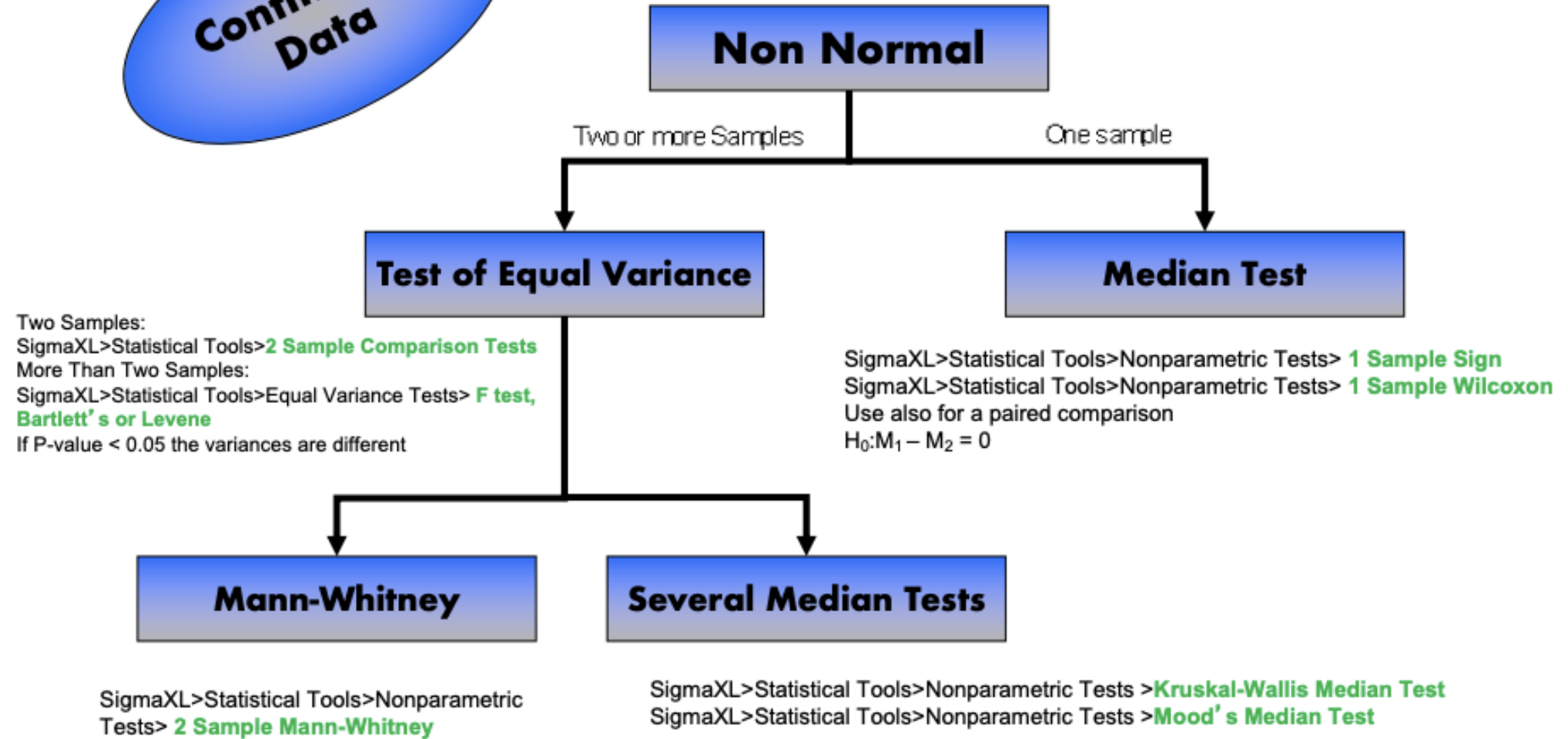
Chi Square Test (Contingency Table)

For Stacked Column Format:
SigmaXL>Statistical Tools> **Chi-Square Test For Two-Way** or Pivot Table Format:
SigmaXL>Statistical Tools>Chi-Square Test - Two-Way Table Data
If P-value < 0.05 the factors are not independent

Continuous Data



Continuous Data



References

<https://www.edvancer.in/descriptive-statistics-for-data-science/>

Hal Wiggin

Open Source Six Sigma



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THANK YOU!

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