ASCPT American Society for Clinical Pharmacology & Therapeutics
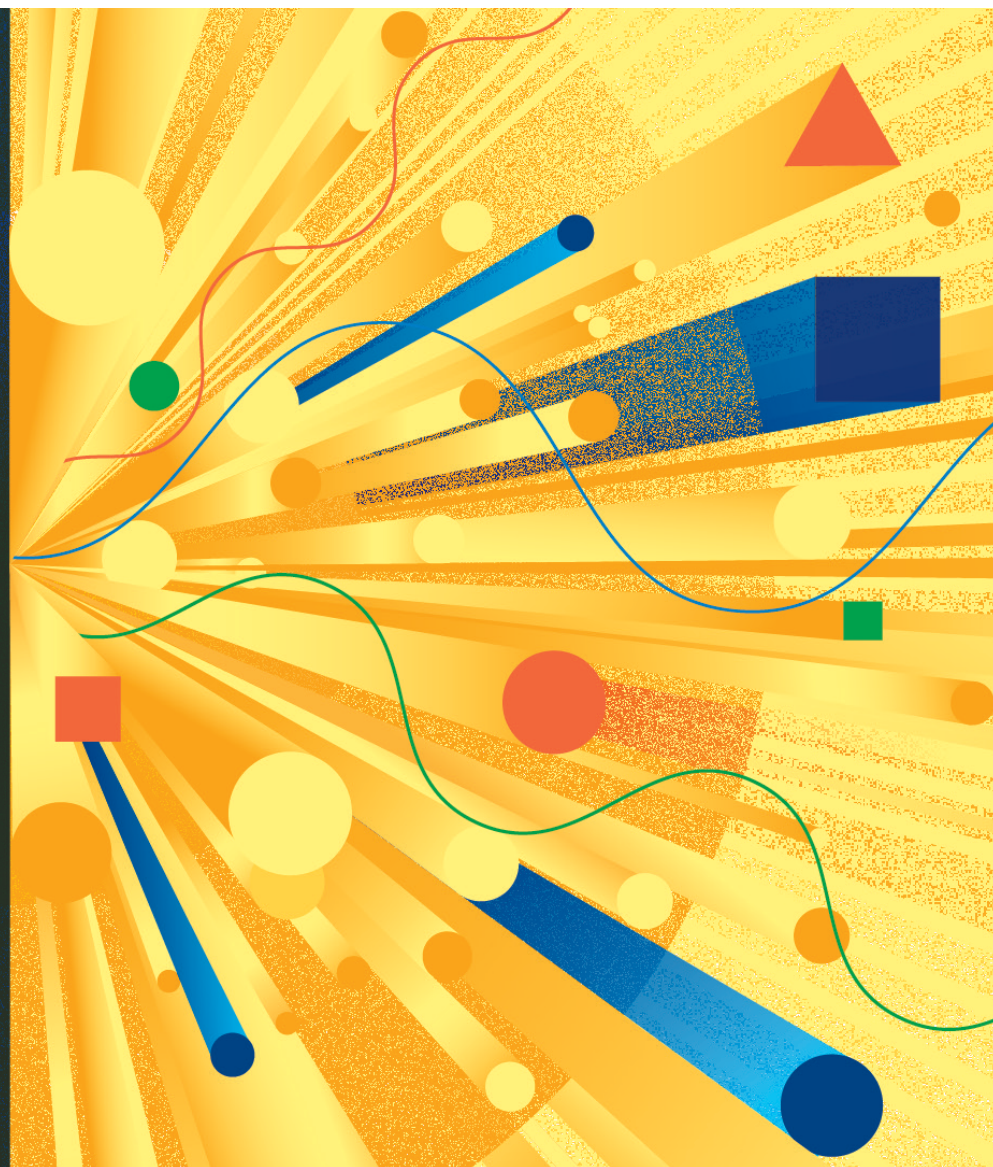
ASCPT 2021
ANNUAL MEETING

REIMAGINING
THE
THERAPEUTIC
LANDSCAPE

Sheiner-Beal Pharmacometrics Award Lecture

Acknowledgements

Nomination Committee

Mentors

Collaborators: Industry, Academia, Government

Students & Fellows

METRUM
RESEARCH GROUP

Family

Theory, Empiricism, Certain Random Events, and a Vision for the Continued Growth of Pharmacometrics
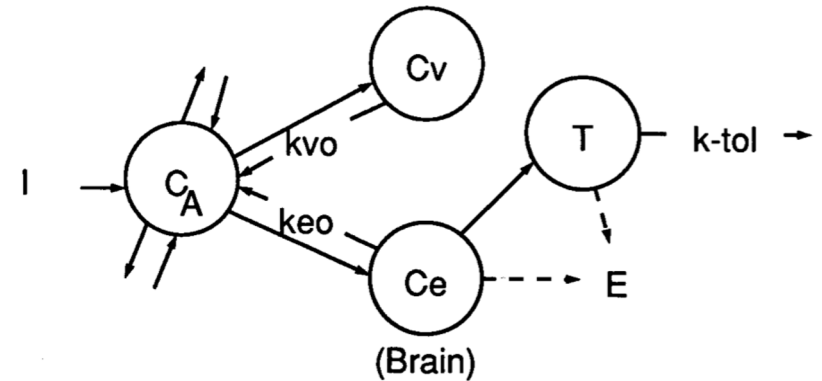
Marc R. Gastonguay, PhD, FISoP

"...the **goal** is theory, not data."

Lewis B. Sheiner, MD

CLINICAL
PHARMACOLOGY
& THERAPEUTICS

VOLUME 46   NUMBER 6   DECEMBER 1989

Clinical pharmacology and the choice
between theory and empiricism

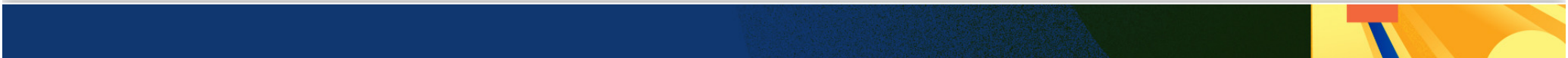Lewis B. Sheiner, MD *San Francisco, Calif.*

understanding

goal

theory

induction

deduction

empiric verification

insight and technique

applicable

Stuart L. Beal, PhD

Conditioning on Certain Random Events Associated with Statistical Variability in PK/PD

Stuart L. Beal[1]

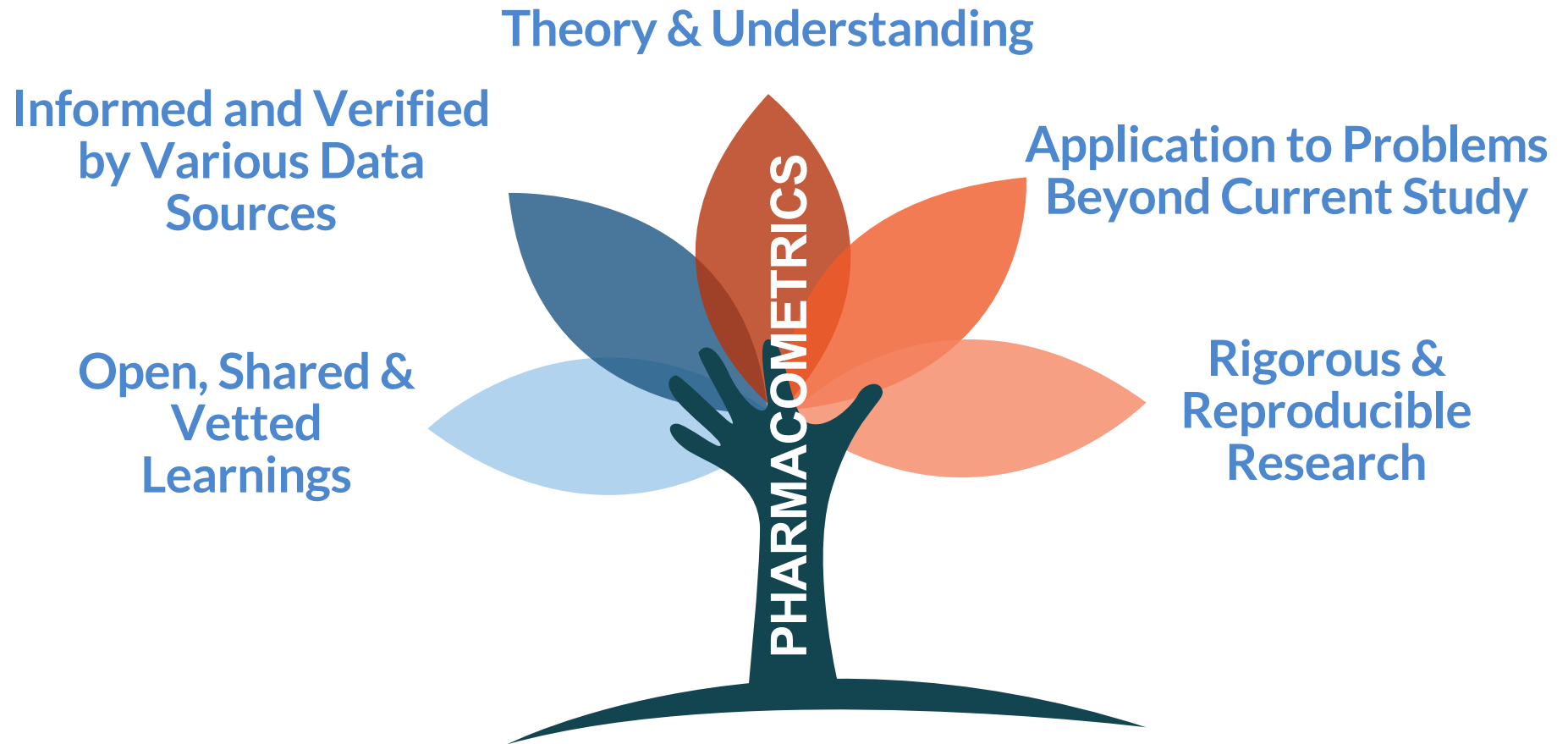**Table II.** Estimation error with blood pressure example

	Mean error (%)		Error magnitude (%)	
	E_{max}	d50	E_{max}	d50
Naive	−33	−75	33	91
Laplace	1	10	7	22
Laplace − ADAG	−1	−0.3	6	18

enhanced

detail

description

ideas

listen

stimulating

discussion
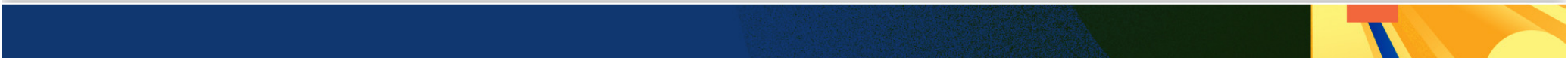
A Vision for **Pharmacometrics**

Theory & Understanding

Informed and Verified by Various Data Sources

Application to Problems Beyond Current Study

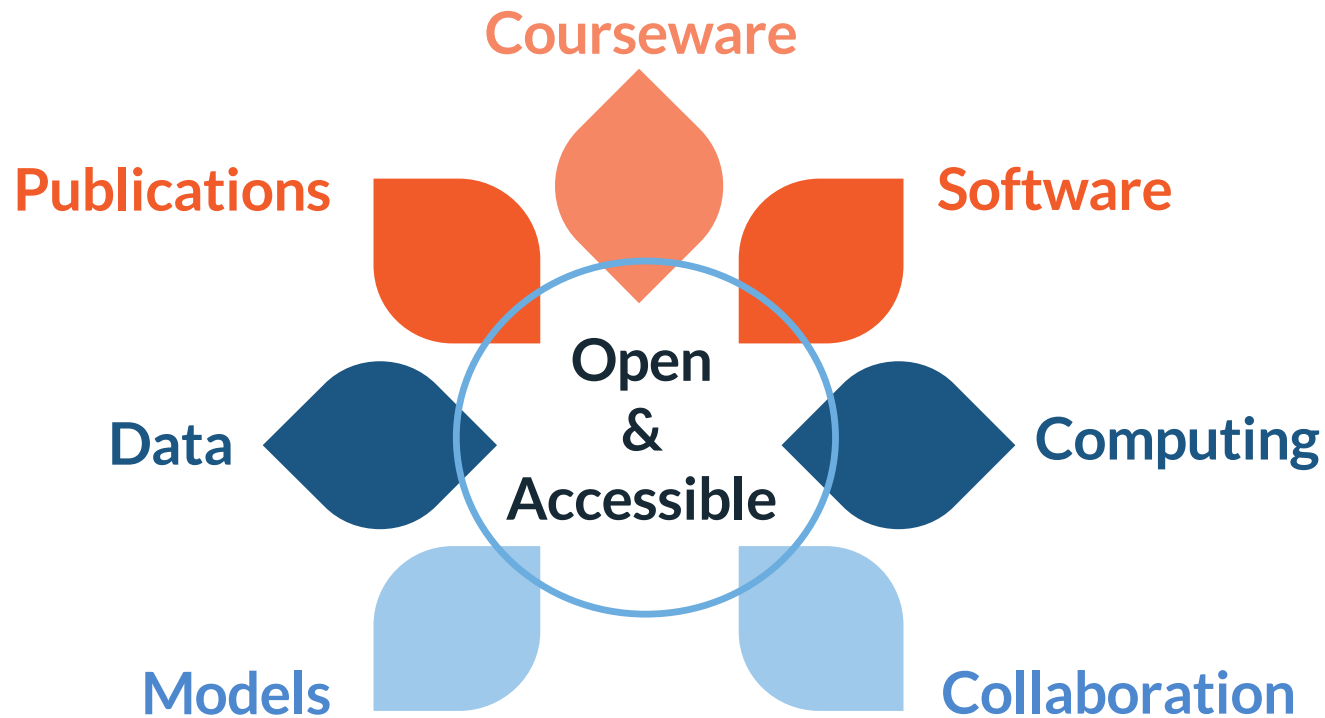Open, Shared & Vetted Learnings

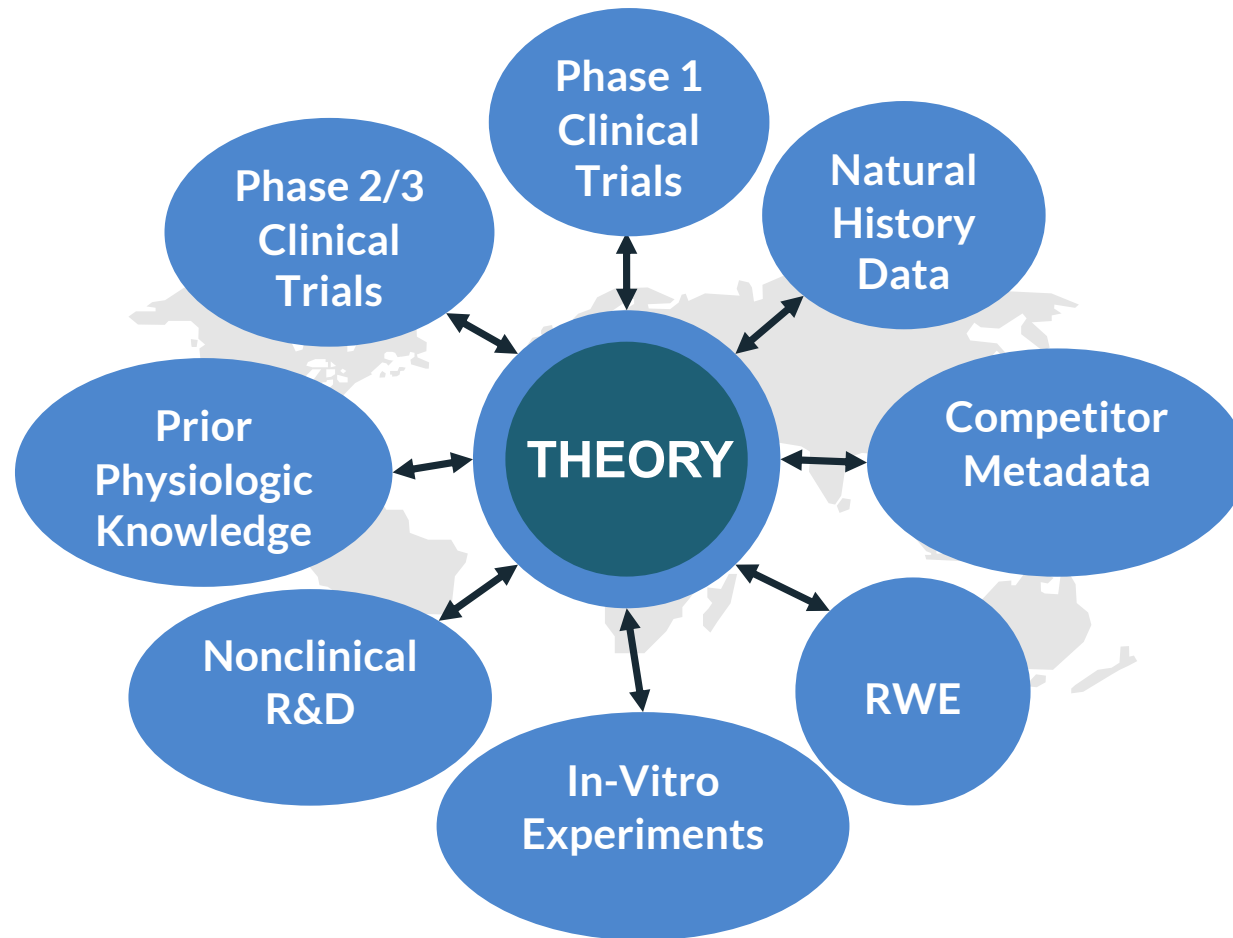Rigorous & Reproducible Research

PHARMACOMETRICS

How do we grow the vision? A Community Effort

Community-Driven Growth of Pharmacometrics

Pharmacometrics: Engine for Theoretical Understanding

Sheiner & Beal: Learnings

Focus on Theory as the Goal

Rigorous Methodology & Detail

Empirical Verification

Listen, Describe, Discuss

Apply Beyond Current Study