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Why Medical Product Development Has Special Requirements

Raymond L. Woosley, MD, PhD

President and CEO

Critical Path Institute

Medical Products are Different

Human Health – Life & Death Outcomes

Regulated by FDA/EMA

Human Diversity Affects Product

Objective of Precompetitive Sharing

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Develop a scientific consensus on which methods are

"qualified for use" in drug development among.....

1) those who will use the methods (industry),

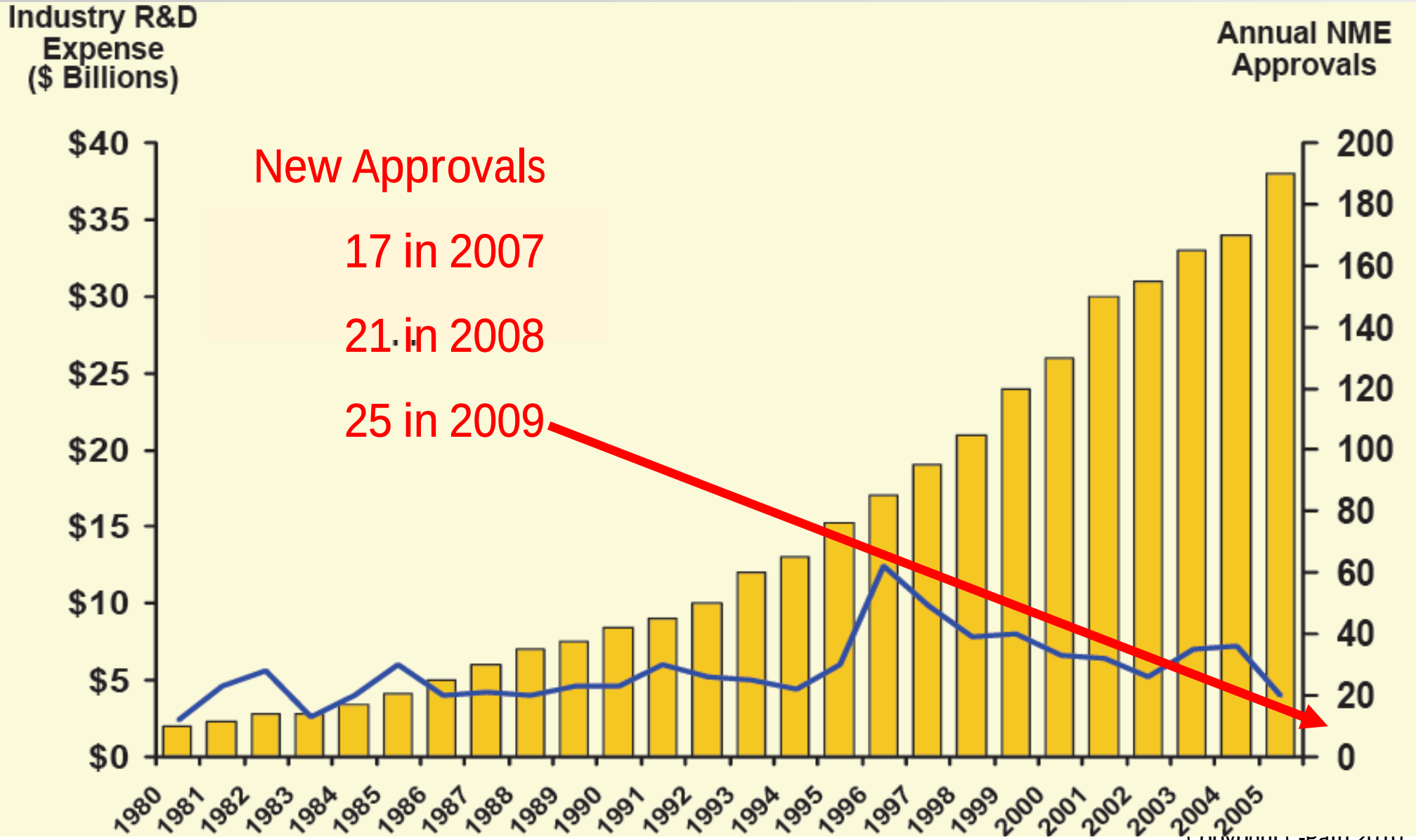
AND

2) those who will accept the methods (FDA).

What Can Be Shared

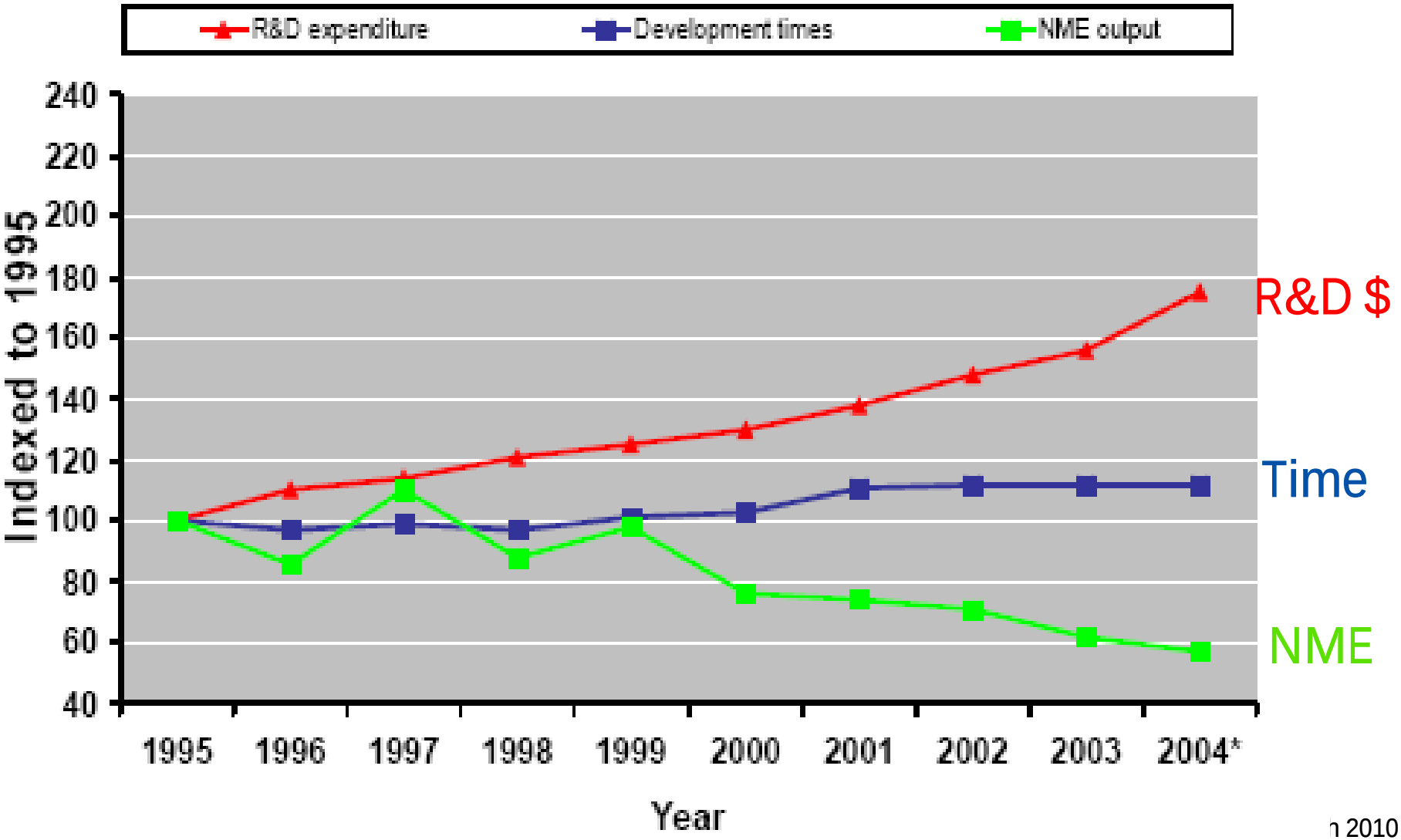
- Work to Define:
  - Common Data Elements
  - Define Performance Standards
- Methods
  - Safety Testing
  - Efficacy Testing
- Knowledge of Diseases
- Applied Science Research
- Regulatory Science Research

Industry R&D Rising, but…

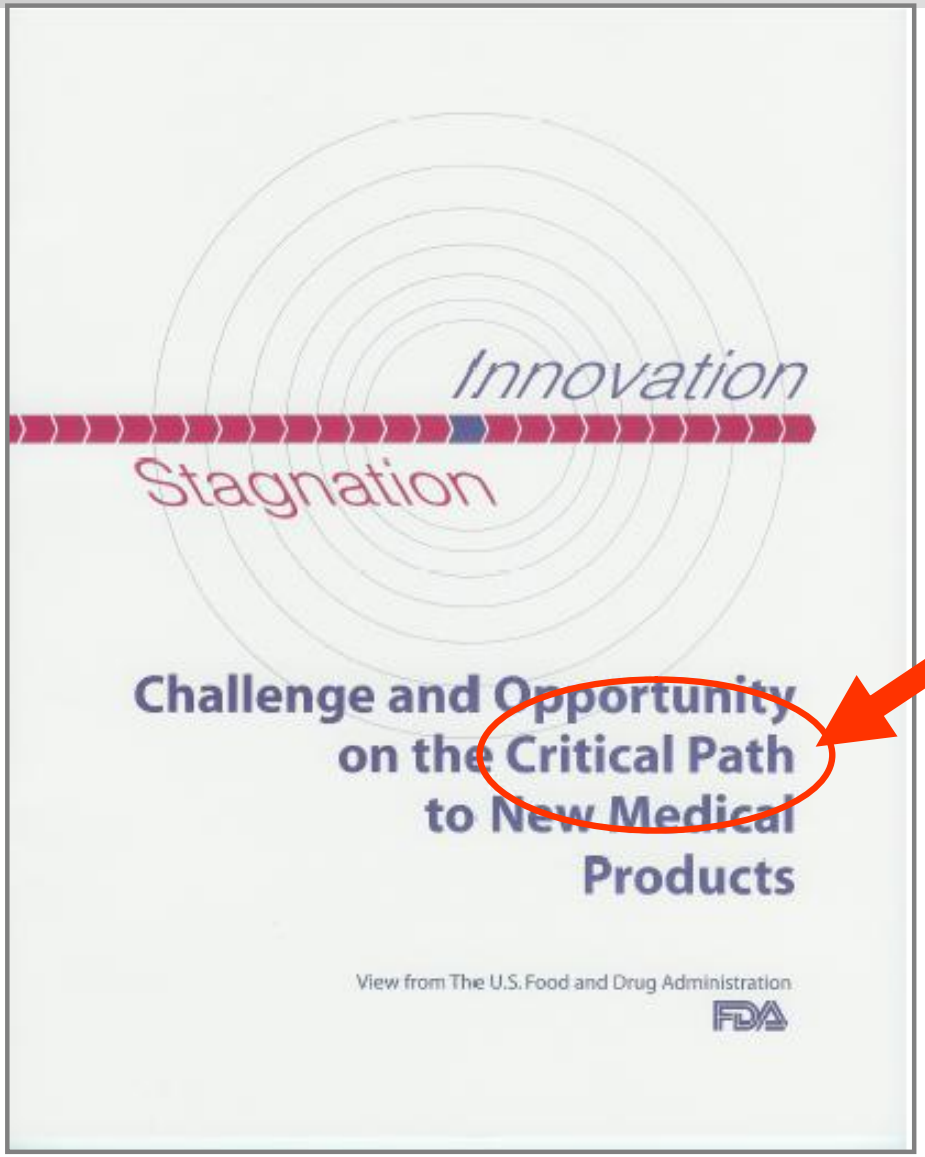


A Global Issue – A call for collaboration

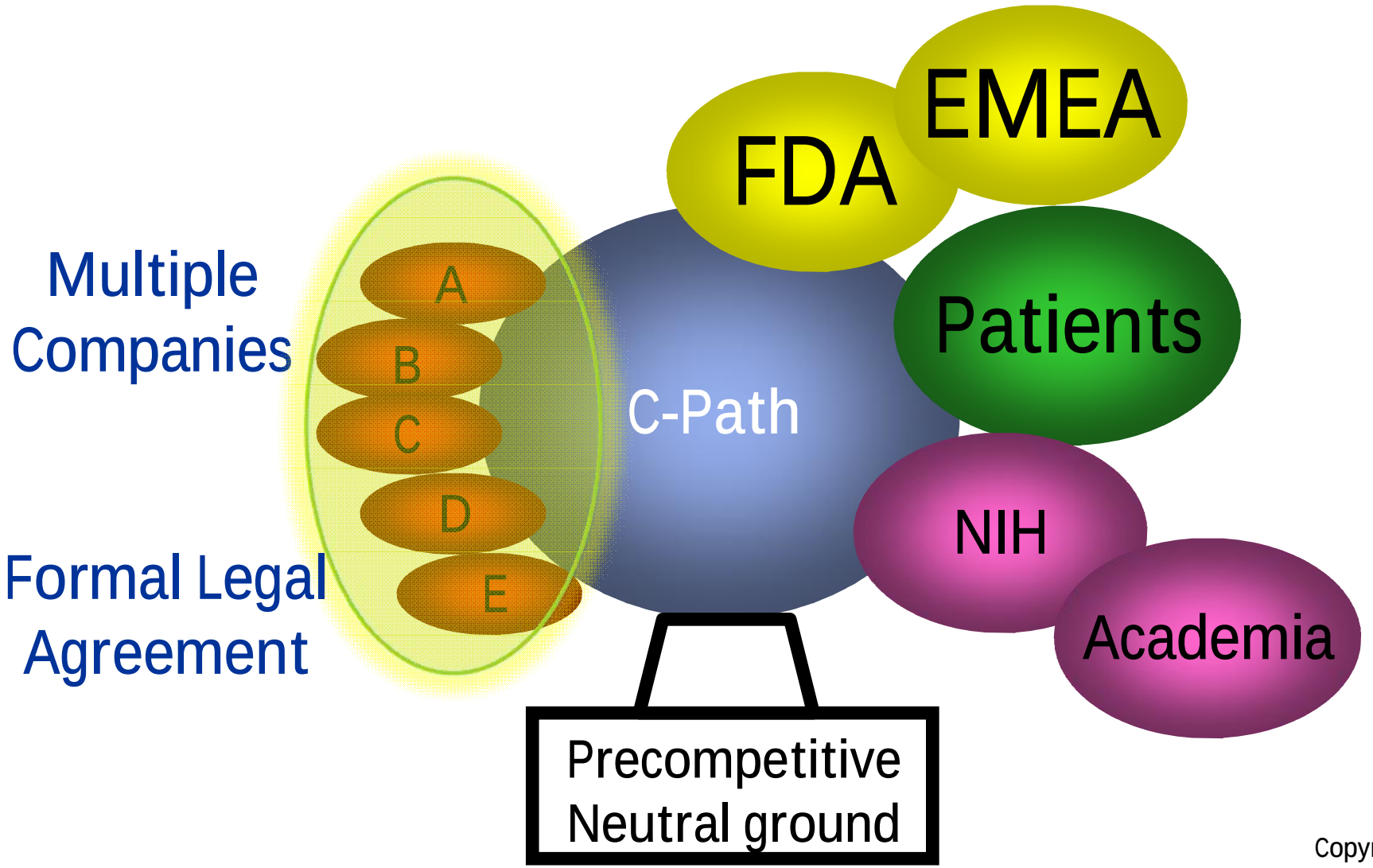
Centre for Medications Research International Ltd. Pharmaceutical R & D Factbook



FDA's Commitment: Critical Path Initiative



C-Path's Consortia Model



C-Path's Neutral Funding

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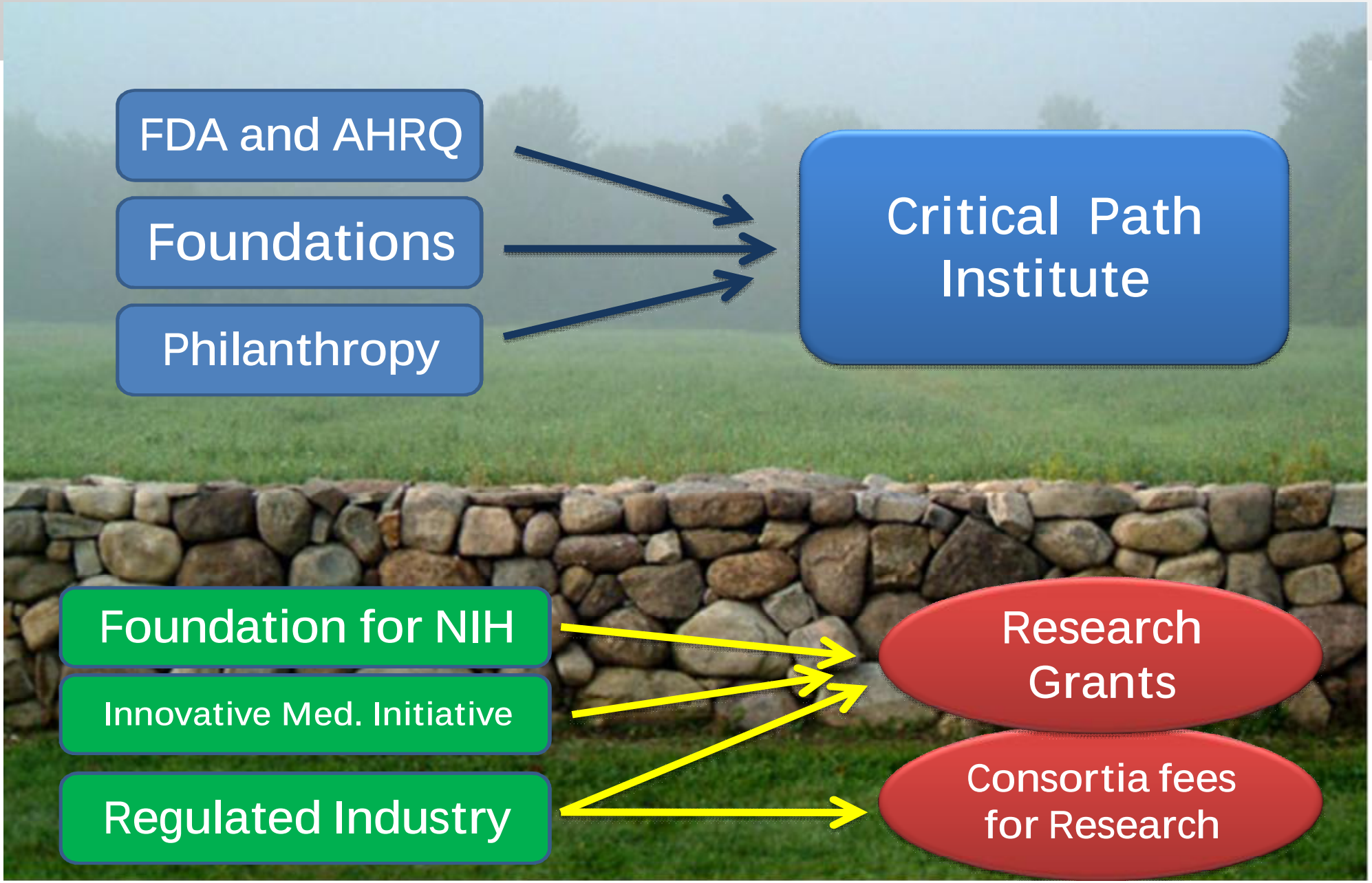

Participants in C-Path's Consortia

28 Major Pharmaceutical Companies

FDA and EMEA

NIA, NINDS, NCI, NHLBI

Six Patient Advocacy Organizations

Over 600 Scientists

A Global Endeavor
>600 Scientists

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Consortia Members and Advisor Locations

C-Path's Consortia
Addressing Regulatory Science

- Predictive Safety Testing Consortium (PSTC)

  DRUG SAFETY
- Patient-Reported Outcomes (PRO)

  DRUG EFFICACY
- Coalition Against Major Diseases (CAMD)

  SHARING CLINICAL DATA (Placebo/contro

Qualification of New Tools

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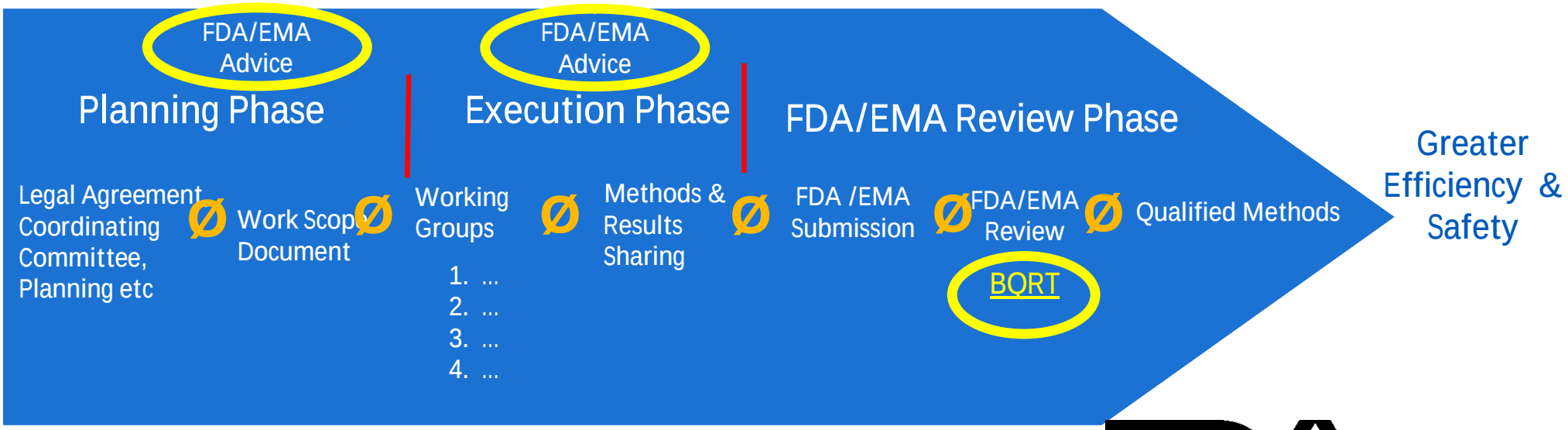
A new pathway.....



Scientific Consensus

Predictive Safety Testing Consortium (PSTC) Members

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Abbott — A Promise for Life

AMGEN

Pfizer

AstraZeneca

Johnson & Johnson PHARMACEUTICAL RESEARCH & DEVELOPMENT

Roche

Bristol-Myers Squibb

Lilly

sanofi aventis — Because health matters

Boehringer Ingelheim

MERCK

NOVARTIS

Schering-Plough

gsk GlaxoSmithKline

Mitsubishi Tanabe Pharma

Wyeth

clinXus — INNOVATIVE CLINICAL RESEARCH

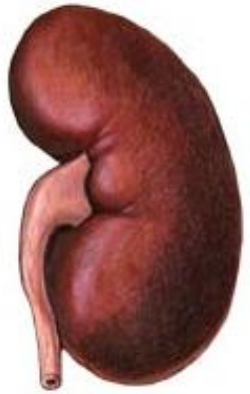
Advisors: FDA, EMEA

Kidney Working Group Progress

Creatinine & BUN do not detect subtle drug injury

Tests Are 105 Years Old

Twenty-three new kidney biomarkers:



- Extremely Sensitive
- Seven: excellent data for submission to FDA and EMEA

Biomarker Qualification Submission

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Data for 7 renal injury biomarkers

First FDA submission of its kind – for a process change

First to create a Biomarker Review process

First joint submission to both US FDA and EMEA (June 15, 2007)

First trilateral (US- Europe-Japan) review meeting

First FDA-EMEA (US-Europe) regulatory decision

April 7, 2008 - First joint approval of Renal biomarkers qualified for use in drug development

FDA Decision: "Biomarkers Qualified"

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DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
Silver Spring, MD 20993

April 14, 2008

RE: Review Submission of the Qualification of Seven Biomarkers of Drug-Induced Nephrotoxicity in rats.

Dear Drs. Dieterle, Mattes, and Sistare:

This letter provides the conclusions from our review of your submission supporting the qualification of seven biomarkers of drug-induced nephrotoxicity in rats. We conclude that:

The urinary kidney biomarkers (KIM-1, Albumin, Total Protein, β2-Microglobulin, Cystatin C, Clusterin and Trefoil factor-3) are acceptable biomarkers for the detection of acute drug-induced nephrotoxicity in rats and can be included along with traditional clinical chemistry markers and histopathology in toxicology studies.

EMEA Decision: "Biomarkers Qualified"

European Medicines Agency
Pre-authorisation Evaluation of Medicines for Human Use

London, 3 July 2008
Doc. Ref. EMEA/250885/2008 Rev. 1

COMMITTEE FOR HUMAN MEDICINAL PRODUCTS

FINAL REPORT ON THE PILOT JOINT EMEA/FDA VXDS EXPERIENCE ON QUALIFICATION OF NEPHROTOXICITY BIOMARKERS.

ADOPTION BY CHMP	April 2008
FOR RELEASE FOR CONSULTATION	May 2008
END OF CONSULTATION (DEADLINE FOR COMMENTS)	Extended to July 2008

Coalition Against Major Diseases

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Engelberg Center

CAMD

Patients Government Industry

Alliance FOR AGING RESEARCH

alzheimer's association

AFA Alzheimer's Foundation of America

NATIONAL HEALTH COUNCIL

Parkinson's Action Network

Parkinson's Disease Foundation

FDA

NIH

Abbott A Promise for Life

AstraZeneca

Bristol-Myers Squibb

Daiichi-Sankyo

Forest Laboratories, Inc.

elan

gsk GlaxoSmithKline

Johnson & Johnson PHARMACEUTICAL RESEARCH & DEVELOPMENT

Lilly

Boehringer Ingelheim

NOVARTIS

Pfizer

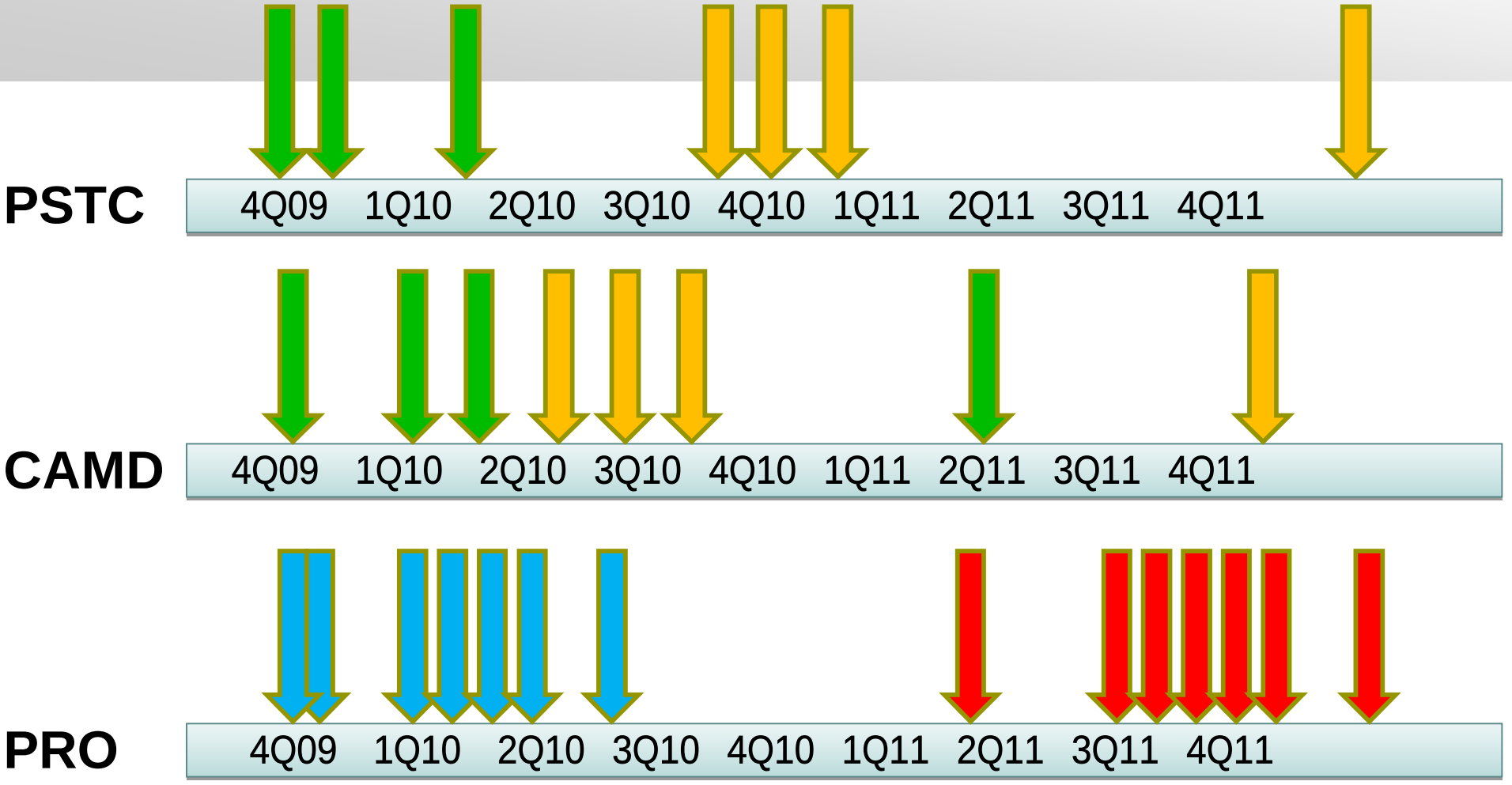
Roche

sanofi aventis

Schering-Plough

Wyeth

C- Path Submissions



Summary: Needed for Innovative Drug Development

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- Common data elements in development
- Biomarkers "qualified for use"
- Independent certification that the biomarker assays perform as intended (Analytic Validity in the Field)
- Innovative tools/methods for trial design
  - Adaptive clinical trial design
  - Trial simulation using disease models
- Innovative Business Models