Overview and Data Standards Project Update

Enrique Avilés
Director, Data Standards & Management

Presented by:
Bron Kisler bkisler@cdisc.org
CDISC Vice President

Critical Path Initiative - 2005

Memorandum of Understanding Between the United States Food and Drug Administration and the C–Path Institute

AGENCY: Food and Drug Administration, HHS.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

[FDA 225–05–8000]

Memorandum of Understanding Between the United States Food and Drug Administration and the C–Path Institute

AGENCY: Food and Drug Administration, HHS.

ACTION: Notice.

"purpose… to foster development of new evaluation tools to inform medical product development"

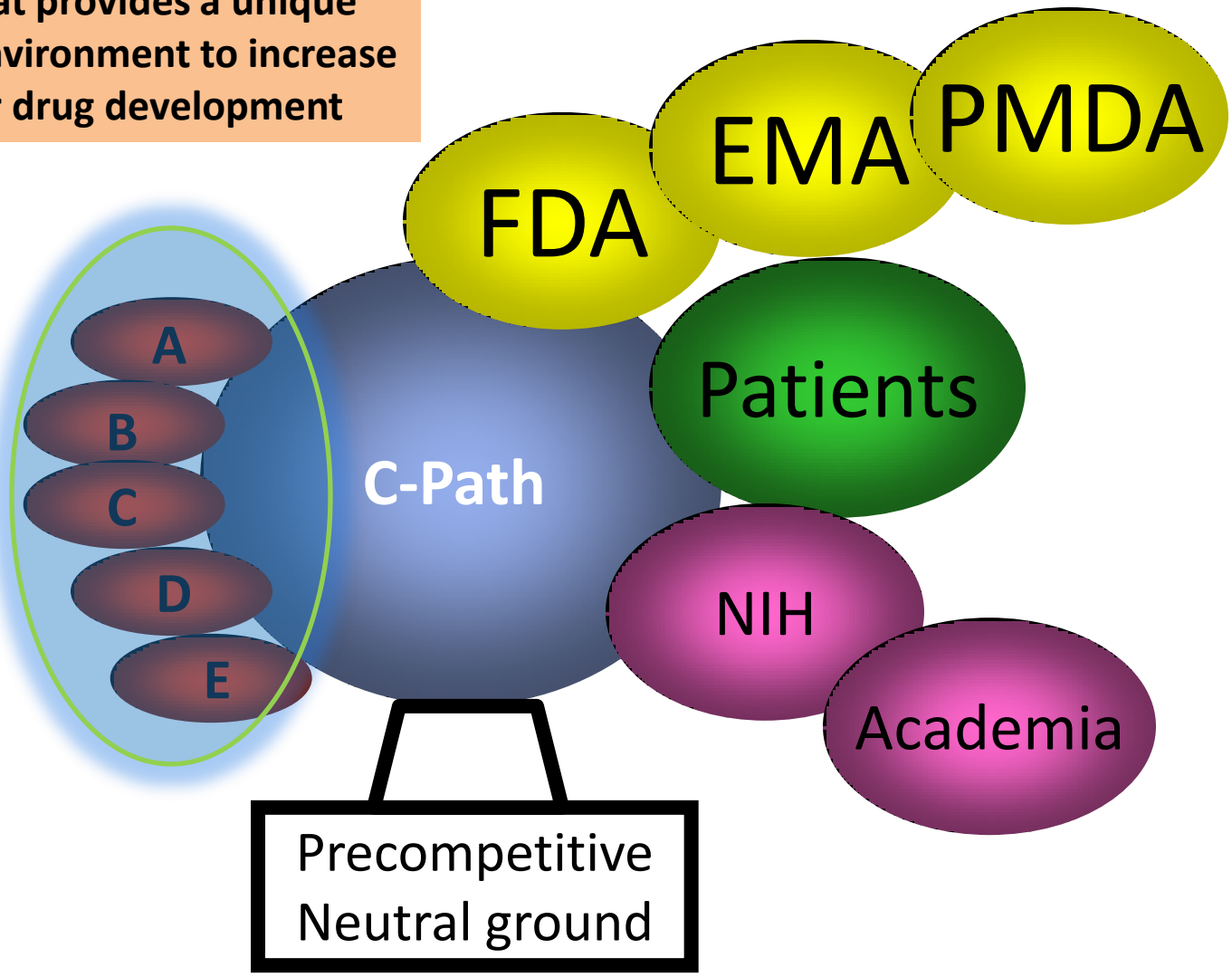
Consortia Model

CRITICAL PATH INSTITUTE

Critical Path Institute (C-Path) has developed a consortium structure that provides a unique neutral, precompetitive environment to increase collaborative efforts for drug development

Multiple Companies

Formal Legal Agreement



C-Path Collaborators

CRITICAL PATH INSTITUTE

Industry

Abbott
Boehringer Ingelheim
Daiichi-Sankyo
Genentech
MERCK
ORION
SUNOVION
ACTELION
Bristol-Myers Squibb
Takeda
Otsuka
ALLERGAN
Celgene GLOBAL HEALTH
Eisai
gsk GlaxoSmithKline
Takeda MILLENNIUM
TEVA
Pfizer
AMGEN
Roche
Mitsubishi Tanabe Pharma
ucb
astellas
Cepheid
GE Healthcare
NOVARTIS
SANOFI
AstraZeneca
clinXus
Lilly
Ironwood
Shire
VERTEX
Forest Laboratories, Inc.
Johnson & Johnson
novo nordisk

Partners

BILL & MELINDA GATES foundation
iCardiac TECHNOLOGIES
CDISC
International Genomics Consortium
ORACLE HEALTH SCIENCES
ENGELBERG CENTER for Health Care Reform at BROOKINGS
ephibian
STC
TB ALLIANCE GLOBAL ALLIANCE FOR TB DRUG DEVELOPMENT

Patients

Alliance FOR AGING RESEARCH
PKD FOUNDATION
alzheimer's association
TAG Treatment Action Group
AFA ALZHEIMER'S FOUNDATION OF AMERICA
NATIONAL HEALTH COUNCIL

Research

ASU
THE UNIVERSITY OF ARIZONA.
EMORY UNIVERSITY
Center for Translational Social Neuroscience
University of Colorado Boulder
FOX
SRI International
MAYO CLINIC
Tufts UNIVERSITY

Government

CDC
NIDDK
FDA
National Institute of Neurological Disorders and Stroke
National Institute on Aging
Pmda JAPAN
EUROPEAN MEDICINES AGENCY
imi
National Institute of Allergy and Infectious Diseases
FNIH Foundation for the National Institutes of Health
NATIONAL INSTITUTES OF HEALTH
World Health Organization

Creating Consensus

CRITICAL PATH INSTITUTE

Predictive Safety Testing Consortium
DRUG SAFETY

Patient-Reported Outcome Consortium
DRUG EFFECTIVENESS

Coalition Against Major Diseases
UNDERSTANDING DISEASES OF THE BRAIN

Polycystic Kidney Disease Consortium
NEW IMAGING TESTS

Critical Path to TB Drug Regimens
TESTING DRUG COMBINATIONS

FDA

- *Biomarkers*
- *Patient Reported Outcomes*
- *Disease Progression Models*
- *Data Standards*

CDISC

CDISC and C-Path Partnership

CRITICAL PATH INSTITUTE

C-Path
FDA Qualification

CDISC
Data Standards

Collaborations:

CAMD – Alzheimer's

CAMD – Parkinson's

PKD – Polycystic Kidney Disease

PSTC – Safety Testing

CPTR – Tuberculosis

New Drug Development Tools

CRITICAL PATH INSTITUTE

- 7 Safety biomarkers “Qualified” by FDA, EMA, and PMDA and being used by industry
- ~ 60 Biomarkers/PROs in process
- CDISC Data Standards set for Alzheimer’s disease; Parkinson’s, TB and PKD in development
- Database of 21 pooled industry trials opened for researchers (~6000 Alzheimer’s disease patients)
- Alzheimer’s: MRI qualified by EMA and disease progression model & CSF biomarkers in FDA review

Data Standards Value Proposition

CRITICAL PATH INSTITUTE

CDISC

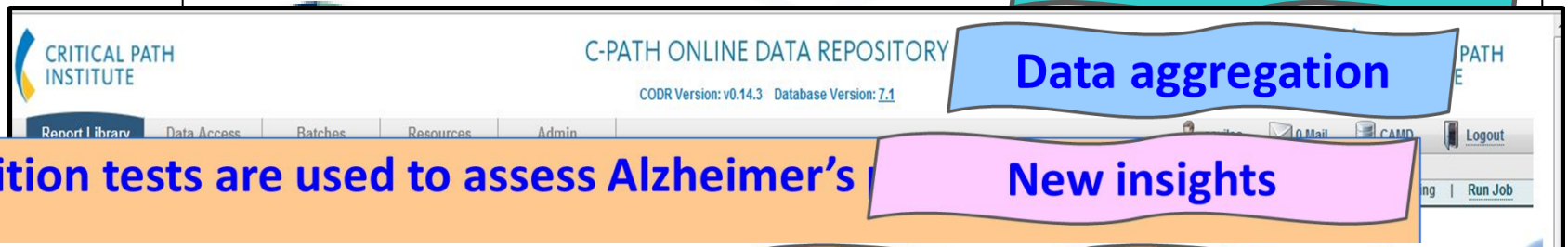
Better standards

Data aggregation

New insights

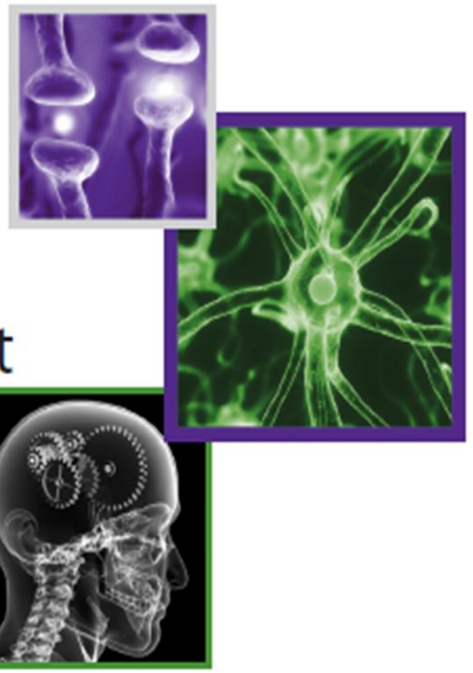
Better science

- **Cognition tests are used to assess Alzheimer's**



SPECIAL REPORT

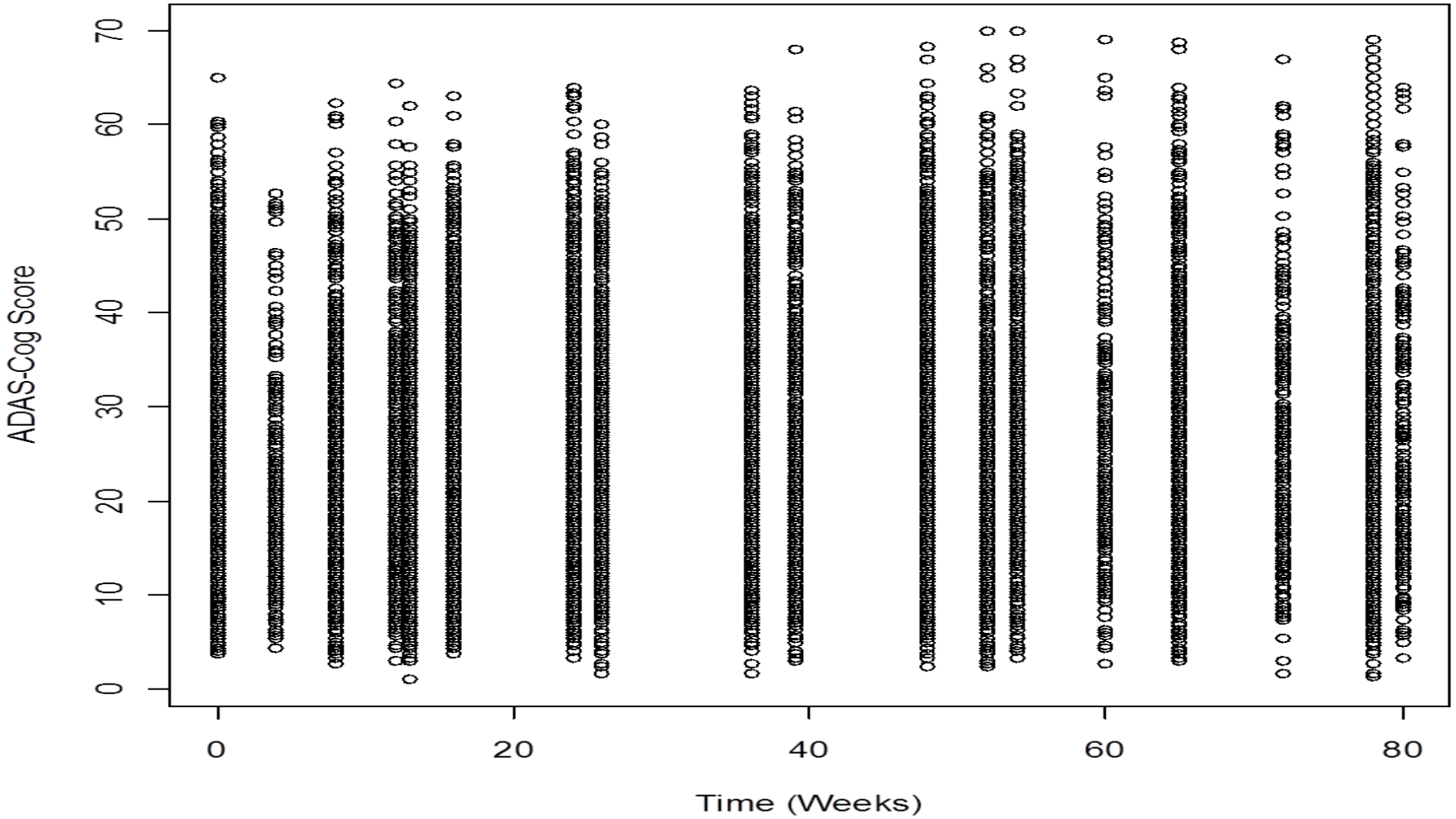
Striving for an integrated drug development process for neurodegeneration: the coalition against major diseases



Klaus Romero[1†], Brian Corrigan[2], Jon Neville[1], Steve Kopko[3] & Marc Cantillon[1]

Neurodegenerative Disease Management, October 2011, Vol. 1, No. 5, Pages 379-385.

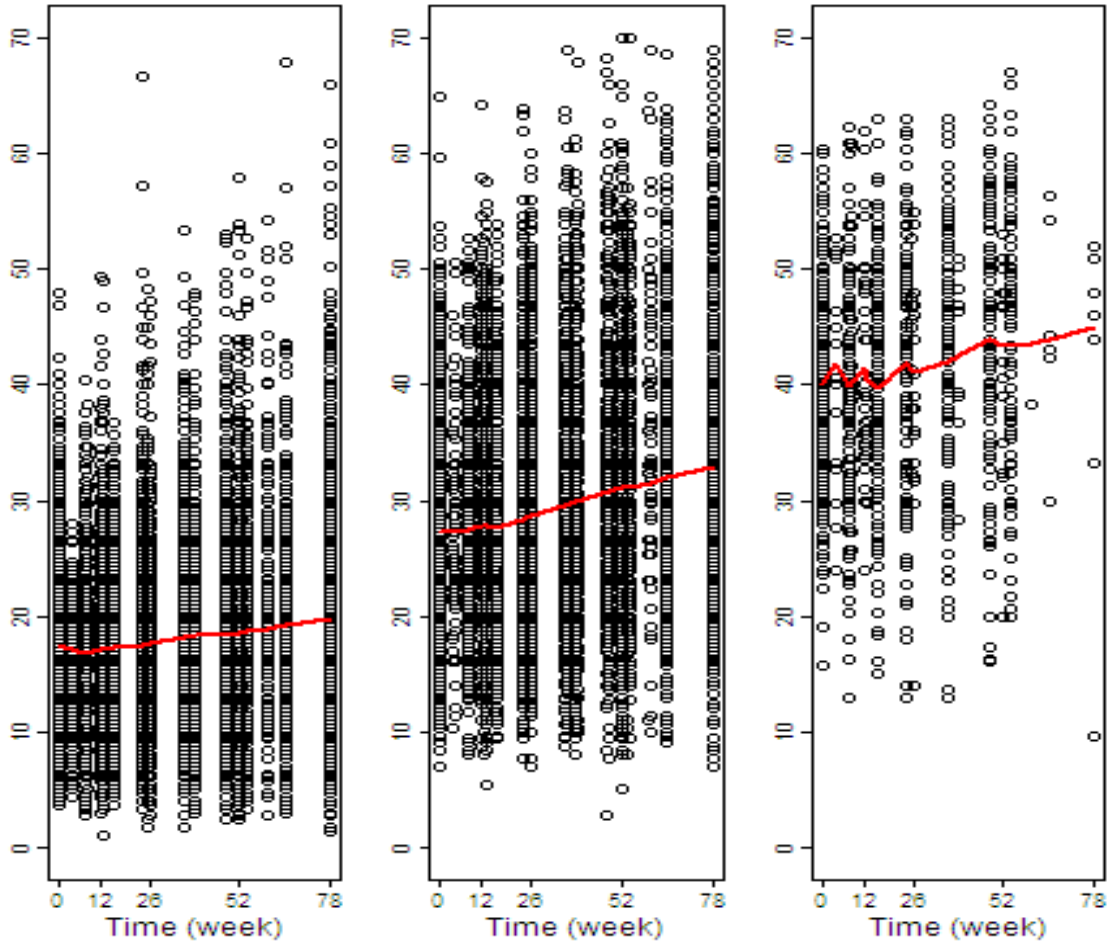
CAMD Cognition Test Data
ADAS-Cog (raw data)



CAMD Database

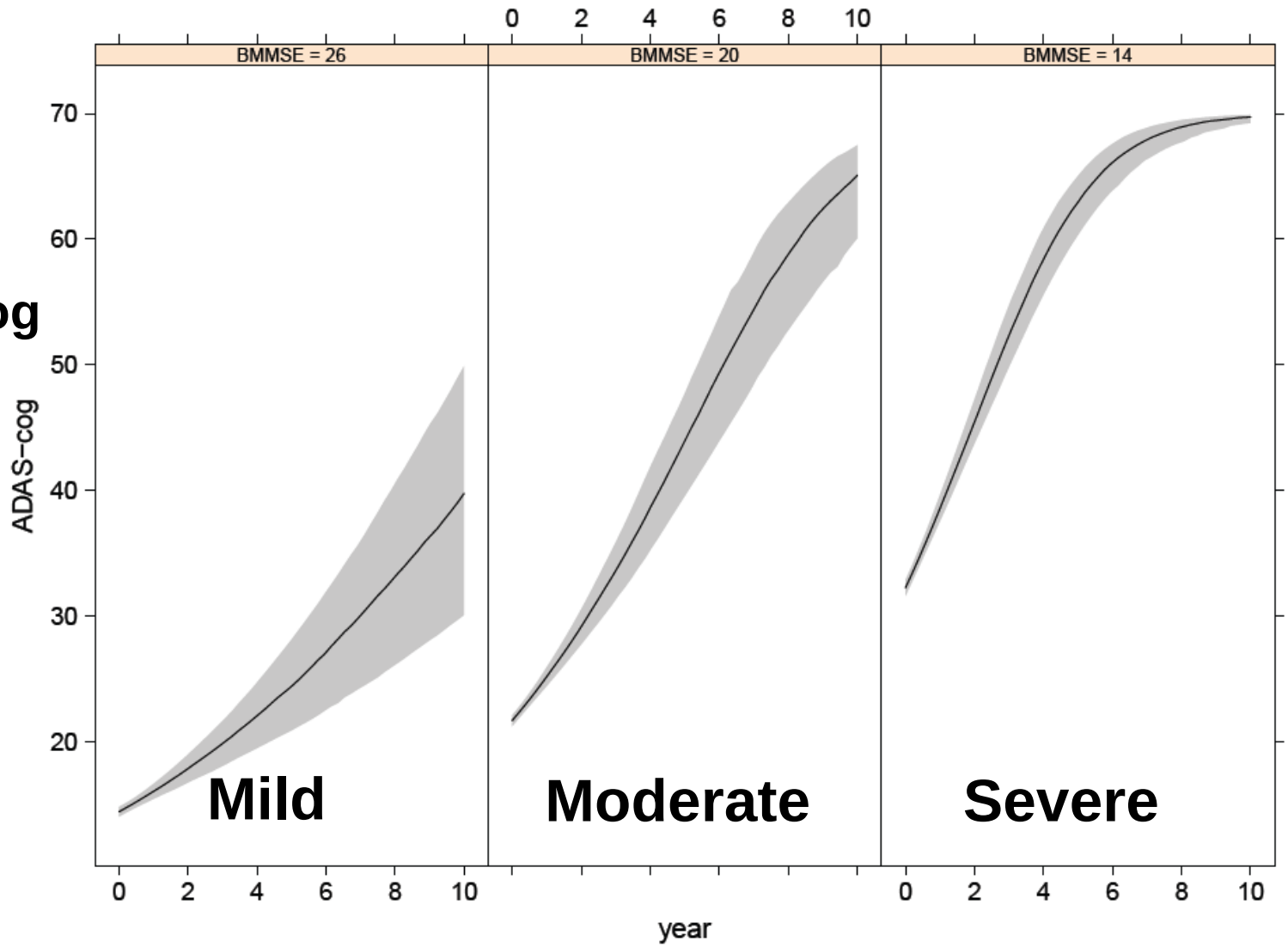
Baseline: **Mild** **Moderate** **Moderately Severe**

Observed ADAS-cog

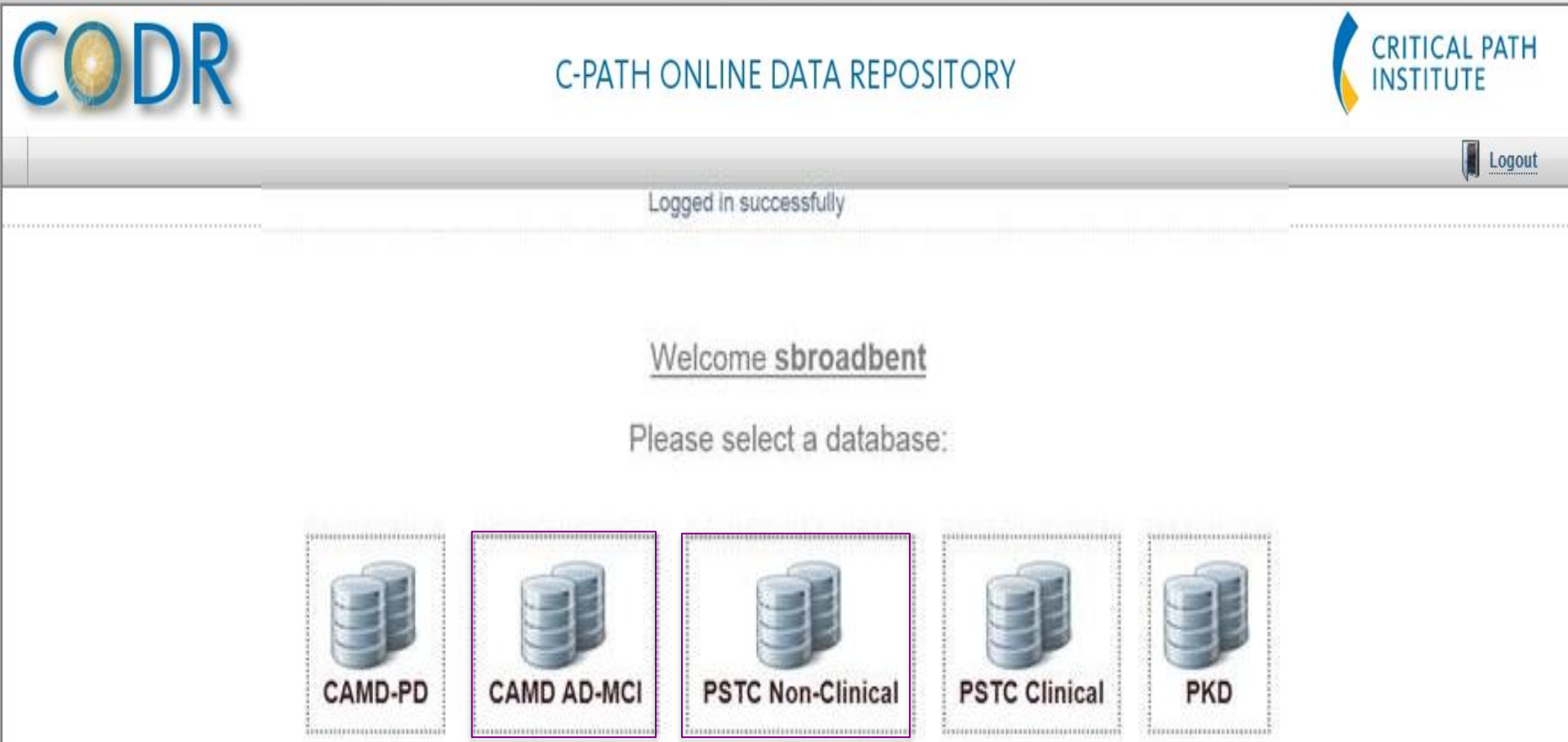


LOWESS in Red
(Locally Weighted Scatterpoint Smoothing)

10-Year Disease Progression by Severity at Entry



Database Selection Screen



Alzheimer's Disease Data = Patients and Loved Ones

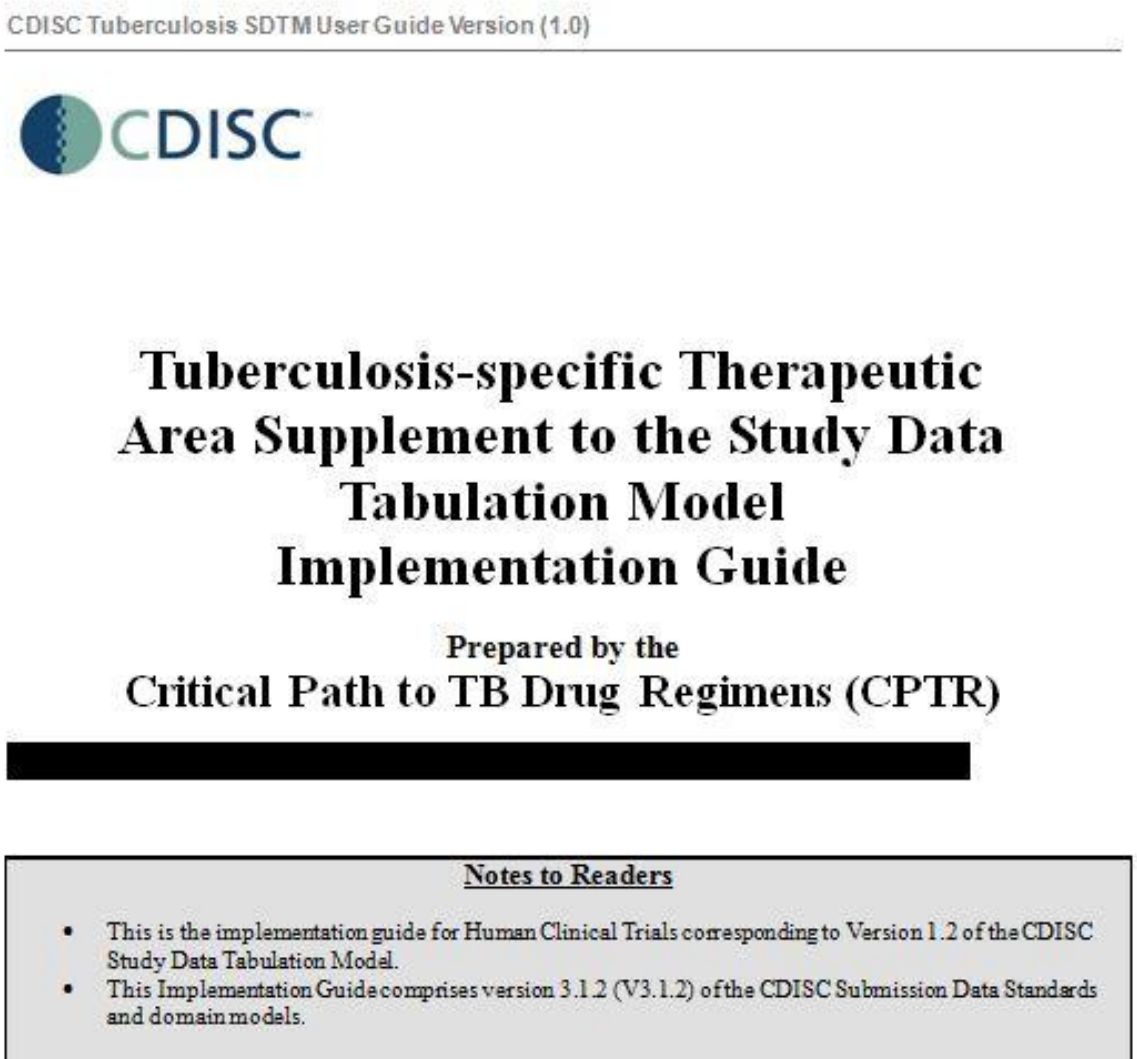
CRITICAL PATH INSTITUTE

- 5.4M sufferers
- 6th Leading Cause of Death
- 15M Unpaid caregivers
- $183B cost/yr
- Projected cost of care by 2050: **$1.1 Trillion**

Therapeutic Area Standards Development

Therapeutic Area	Version	FDA Tier	C-Path Consortium	Projected Availability
Tuberculosis	v 1.0	1	CPTR	June ‘12
Polycystic Kidney Disease	v 1.0	1	PKD	July ‘12
Parkinson’s	v 1.0	1	CAMD	July ‘12
Alzheimer’s	v 1.1	1	CAMD	Sept ‘12
Pain	v 1.0	1		June ‘12
Cardiovascular	v 1.0	1		July ‘12
Virology	v 1.0	1		Sept ‘12
Diabetes	v 1.0	1		4Q12
Cardiovascular Imaging	v 1.0	1		2013
Schizophrenia	v 1.0	1		2013

Implementation / User Guide



CDISC Tuberculosis SDTM User Guide Version (1.0)

CDISC

Tuberculosis-specific Therapeutic Area Supplement to the Study Data Tabulation Model Implementation Guide

Prepared by the

Critical Path to TB Drug Regimens (CPTR)

[redacted]

Notes to Readers

- This is the implementation guide for Human Clinical Trials corresponding to Version 1.2 of the CDISC Study Data Tabulation Model.
- This Implementation Guide comprises version 3.1.2 (V3.1.2) of the CDISC Submission Data Standards and domain models.

FDA Priority Therapeutic Areas

CRITICAL PATH INSTITUTE

Standardize Efficacy data elements in 57 therapeutic areas in 7yrs

FDA Priority Therapeutic Areas for Development

Tier 1	FDA preliminary view of project start timing	
Acne	Pain*	Schizophrenia*
Alzheimer's Disease*	Parkinson's Disease*	Solid organ transplantation
Anti-diabetic agents*	Polycystic Kidney Disease* (added)	Treatment of Hepatitis C* (Virology)
Infections of skin and/or subcutaneous tissue	Prevention of pregnancy	Treatment of postmenopausal osteoporosis
Cardiovascular*	Psoriasis	Tuberculosis*
Cardiovascular Imaging*	QT Studies	Urinary tract infections
Oncology: time to efficacy event other than overall survival*	Rheumatoid arthritis	

	2012	2013	2014	2015	2016	2017

*= in progress

FDA Priority Therapeutic Areas for Development

Tier 2	FDA preliminary view of project start timing	
Addiction	Gastroesophageal reflux disease	Pneumonia
Anticonvulsants	Influenza	Prevention of HIV
Asthma	*Irritable bowel syndrome*	Treatment of HIV
Bipolar Disorder	Lipid-altering drug groups	Treatment of overactive bladder
Clostridium difficile colitis	Major depressive disorder	Treatment of vasomotor symptoms due to menopause
Diabetic nephropathy	Objective tumor response (Oncology)*	*Ulcerative colitis*

Legend	2012	2013	2014	2015	2016	2017

***= in progress**

FDA Priority Therapeutic Areas for Development

Tier 3	FDA preliminary view of project start timing	
Actinic keratosis	Decompensated CHF	Tinea pedis
Aerosolized antimicrobials for cystic fibrosis	Diagnostic radiopharmaceuticals	Traumatic brain injury
Atrial fibrillation	General Anxiety Disorder	Treatment of cough
Attention Deficit Hyperactivity Disorder	Helicobacter pylori ulcer disease	Treatment of erectile dysfunction
Bacterial vaginosis	Infectious diseases of the abdomen	Treatment of hepatitis B
Chemotherapy-induced nausea	MRI contrast agents	
COPD	Recombinant human growth hormone	

	2012	2013	2014	2015	2016	2017

*= in progress

Next Steps

Collaborative Research Agreement

- ✓ Review by C-Path & CDISC boards
- ➢ Complete C-Path / CDISC agreement for CFAST Alliance
- ➢ Establish steering committee

New Therapeutic Area (TA) standards projects (aka 55in5)

- Additional webinars: NIH, patient organizations
- Align Therapeutic Area standards priorities with key stakeholders
- Ongoing collaboration with other groups developing data elements

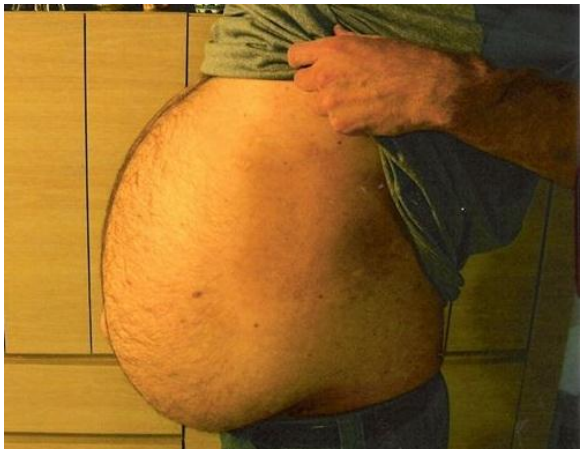
We would like your support and assistance

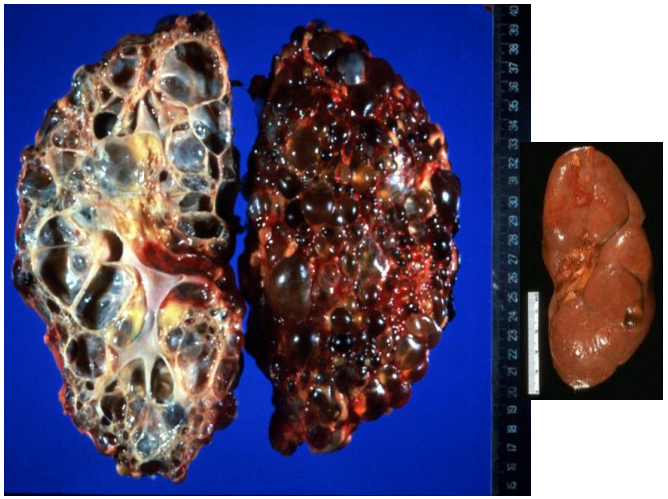
- Input on priorities for therapeutic area standards
- Promotion of standards development
- Identification of potential funding sources

“STANDARDS FOR PATIENTS”

Polycystic Kidney Disease (PKD)

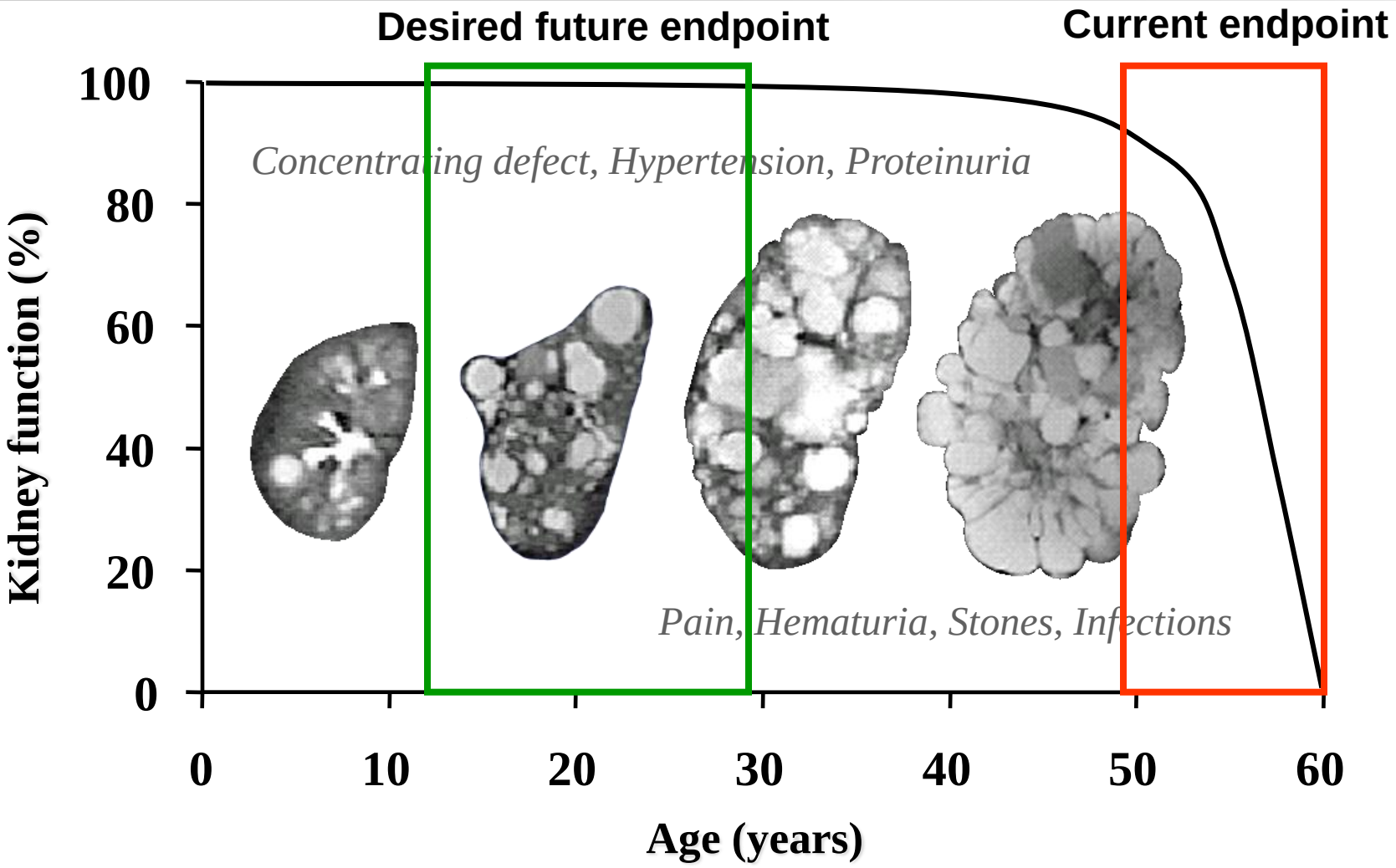
- Hereditary systemic disorder
- Bilateral kidney cysts leading to marked expansion of total kidney volume (TKV)
- Progressive reduction in kidney function; Accounts for 8-10% patients on dialysis
- Direct medical costs exceed $1.5 B/year





Source: Dr. Ron Perrone PKD Foundation & Tufts Univ.

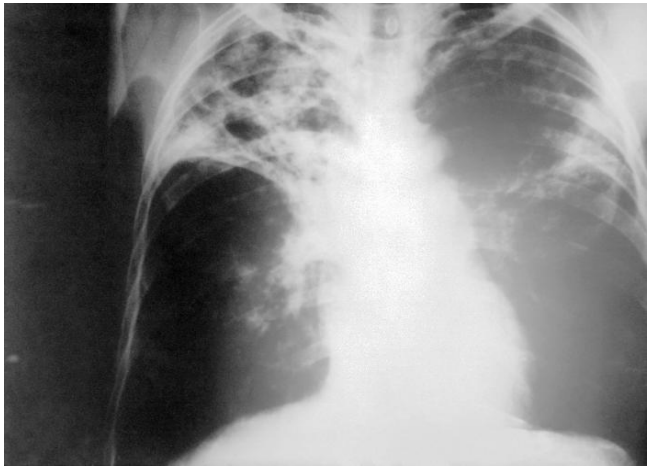
PKD Clinical Use Case



Source: Dr. Ron Perrone PKD Foundation & Tufts Univ.

TUBERCULOSIS:
GLOBAL PUBLIC HEALTH IMPERATIVE

Credit: James Nachtwey



Credit: CDC Public Health Image Library

TB: Global Unmet Medical Need

CRITICAL PATH INSTITUTE

TB Prevalence, Burden and Impact

- ***TB kills 3,800 people every day and 1 person every 25 seconds***
- 2 billion people or *approximately* 1/3 of the world's population is infected with TB
- 9.4 million new cases annually
- TB is the leading cause of death amongst people with HIV/AIDS

Cases of MDR and XDR-TB are increasing

CPTR Alliance: Critical Path to TB Drug Regimens

CRITICAL PATH INSTITUTE

BILL & MELINDA GATES foundation

CDISC

TB ALLIANCE
GLOBAL ALLIANCE FOR TB DRUG DEVELOPMENT

CRITICAL PATH INSTITUTE

A collaboration to accelerate the development of new, safe, and highly effective regimens for TB by enabling early testing of drug combinations.

accelerate

innovate

collaborate

Thank you

Creating Consensus Science: New Tools and Tactics for Next-Gen Drug Development

Sponsored by

CRITICAL PATH INSTITUTE
collaborate · innovate · accelerate

FDA

CDISC