

# GENOMICS AND THE LEARNING HEALTH SYSTEM

A photograph of a modern building with a prominent wooden roof structure and large glass windows. The building is situated next to a body of water, and its reflection is visible in the calm water. The sky is a mix of blue and orange, suggesting a sunset or sunrise. The overall scene is serene and architectural.

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EPIC

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# AGENDA

WHAT'S HAPPENING NOW

USE CASES AND MODELS

NEEDS AND CHALLENGES

# WHAT IS HAPPENING NOW

LOT'S OF WORK ON PGX

DISPARATE APPROACHES

MODELS

INTEGRATION

SEVERAL EXAMPLES

EXTERNAL KNOWLEDGEBASE

COMBINING DATA IN DW

# WHY IT DOESN'T SUPPORT LHS

SPEED OF ADOPTION

BURDEN ON IMPLEMENTER IS HIGH

VERY REACTIVE

NO FEEDBACK LOOP



# WHAT NEEDS TO CHANGE

DATA STANDARDS AND INTEROPERABILITY

CONSENT, ACCESS, AND PAYMENT MODELS

RAPID CHANGING KNOWLEDGE AND MEASURED OUTCOMES

# AGENDA

WHAT'S HAPPENING NOW

USE CASES AND MODELS

NEEDS AND CHALLENGES

# USE CASES

## COMMON USES CASES

PHARMACOGENOMICS

DISEASE RISK

TUMOR GENOMICS

## WORKFLOWS

GENOMIC TESTING INDICATED

PASSIVE AND ACTIVE CDS

DATA ANALYTICS: PHENOTYPIC AND GENOTYPIC

# MODELS

WHERE THE DATA LIVE

ALL EXTERNAL

RAW EXTERNAL, ACTIONABLE INTERNAL

WHERE THE KNOWLEDGE LIVES

EXTERNAL

INTERNAL



# NEEDS AND CHALLENGES

DATA STANDARDS AND INTEROPERABILITY

CONSENT, ACCESS, AND PAYMENT MODELS

RAPID CHANGING KNOWLEDGE AND MEASURED OUTCOMES

# DATA STANDARDS

EXIST, NOT WIDELY USED

NEED BETTER FEEDBACK LOOP (ANOTHER LEARNING SYSTEM)

REDUCE THE BURDEN

TO ENSURE INTEROPERABILITY

FLEXIBLE TO MODEL

FOCUS ON ACTIVE DECISION SUPPORT

VERY EXCITED ABOUT THE ACTION COLLABORATIVE

# CONSENT, ACCESS, PAYMENT MODELS

TOOLBOX FOR PATIENT CONSENT

SHOULD ADDRESS RESPONSIBILITIES

PATIENT PREFERENCE

ACCESS TO THE DATA

DYNAMIC

WHO PAYS?

# CHANGING KNOWLEDGE

NEEDS TO SUPPORT RAPID CHANGE AND TRANSLATION

SHARABLE, SCALABLE

FLEXIBLE TO MODEL

WORKFLOW FOR FOLLOW-UP

LEARN FROM WHAT WORKS: DRUG INTERACTION CHECKING



# MEASURED OUTCOMES

YOU CAN'T IMPROVE WHAT YOU CAN'T MEASURE

LEARNING REQUIRES MEASURING OUTCOMES

STANDARDS

# NEEDS AND CHALLENGES

DATA STANDARDS AND INTEROPERABILITY

CONSENT, ACCESS, AND PAYMENT MODELS

RAPID CHANGING KNOWLEDGE AND MEASURED OUTCOMES

# **THANK YOU!**

**QUESTIONS?**

