

PhenX Research Domains

Alcohol, Tobacco and Other Substances	Ocular
Anthropometrics	Oral Health
Cancer	Physical Activity and Physical Fitness
Cardiovascular	Psychiatric
Demographics	Psychosocial
Diabetes	Rare Genetic Conditions*
Environmental Exposures	Reproductive Health
Gastrointestinal	Respiratory
Infectious Diseases and Immunity	Skin, Bone, Muscle and Joint
Neurology	Social Environments
Nutrition and Dietary Supplements	Speech and Hearing

*Coming Soon

PhenX Measures for Mental Health Research

The National Institute of Mental Health (NIMH) sponsors an administrative supplement to add several Specialty collections (Suicide, PTSD, and Eating Disorders) and one Core collection to the Toolkit. The eight-member Mental Health Research Panel (MHRP), co-chaired by Drs. Deanna Barch and Ian Gotlib, will guide the selection of these high-quality measures for inclusion into the PhenX Toolkit to help establish a common currency to better understand the etiology, progression, and treatment of these mental health conditions.

PhenX Measures for Tobacco Regulatory Research

The U.S. Food and Drug Administration (FDA) and the National Institutes of Health (NIH) Tobacco Regulatory Science Program (TRSP) sponsor an administrative supplement to expand the tobacco-related measures in the Toolkit and enhance cross-study analysis in large-scale research. The nine-member Tobacco Regulatory Research Panel (TRRP), co-chaired by Drs. Jodi Prochaska and Gary Swan, aims to add several Specialty collections based on a HAVE (Host-Social/Cognitive, Host-Biobehavioral, Agent, Vector, and Environment) framework and one Core collection of tobacco regulatory research measures to the Toolkit.

Visit the PhenX Toolkit at
<https://www.phenxtoolkit.org>

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PhenX Toolkit

PhenX

consensus measures for Phenotypes and eXposures

get the most
from your
measures



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National Human
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RTI International is a trade name of Research Triangle Institute

What Is PhenX?

PhenX (consensus measures for Phenotypes and eXposures) is a collaborative, consensus project between RTI International, the National Human Genome Research Institute (NHGRI) of the National Institutes of Health, and the larger research community. The objective of PhenX is to provide recommended, standard measures with specified measurement protocols that have a high priority for inclusion in genome-wide association studies (GWAS) and other types of studies. The consistent use of some measurement protocols across studies will facilitate cross-study comparisons and increase the statistical power to identify genetic associations with complex diseases and traits and with gene-gene and gene-environment interactions. High-priority measures are, therefore, those measures that are broadly relevant to multiple health outcomes or assessments of health outcomes, although the measures are not focused on differential diagnosis.

What Is the PhenX Toolkit?

The PhenX Toolkit is an online catalog of standard measures recommended by Working Groups (WGs) of domain experts, and it is available for use by the scientific community at no cost.

The purpose of the PhenX Toolkit is to:

- Provide recommended, standard measures of phenotypes and exposures for use in biomedical research
- Facilitate acceptance and use of standard PhenX measures
- Promote collaboration and facilitate cross-study analyses

Researchers visit the Toolkit to:

- Select and incorporate standard measures into ongoing studies
- Consider PhenX measures when planning new studies
- Review and select high-quality, recommended, standard measures in order to expand a study beyond the primary research focus
- Review and select PhenX measures that relate to researchers' primary research focus

PhenX Toolkit Features

- Search options: Smart Query Tool (ontology based) and Text (full-text) Query
- Browse options: Domains, Measures, Collections, Supplemental Information, and hierarchical tree view
- Register Your Study to find other researchers using the same measures to find opportunities for cross-study analysis
- Standards included: cancer Data Standards Registry and Repository (caDSR) Common Data Elements (CDEs) and Logical Observation Identifiers Names and Codes (LOINC)
- Registered Users have access to additional features and functionality
- Quick Start and Tutorial resources help new users become familiar with the Toolkit



Information Provided for Each PhenX Measure

- Brief description of the measure
- Rationale for selecting the measure for inclusion in the Toolkit
- Detailed protocol(s) for collecting the measure
- Information about the personnel, training, and equipment needed to collect the measure
- Any special requirements
- Essential and Related measures
- References

PhenX Research Domains

Twenty-one Research Domains

A Steering Committee of distinguished experts from the scientific community prioritized the research domains and provided overall guidance for the project. WGs of domain experts selected measures for each of the 21 research domains. Each WG used a consensus-based process to select up to 15 measures for inclusion in the Toolkit. This process included inviting the scientific community to provide input on the proposed measures; this input was considered by the WGs during their final deliberations.



Substance Abuse and Addiction

The National Institute on Drug Abuse (NIDA) sponsored an Administrative Supplement to expand the depth and breadth of measures related to substance abuse and addiction (SAA) in the PhenX Toolkit. An SAA Scientific Panel (SSP), chaired by Dr. Kenneth Sher, provided guidance to the SAA WGs. The SAA measures were selected by the SAA WGs using a streamlined version of the established consensus process. The SAA measures are presented in the Toolkit as one Core collection and six Specialty Collections.

SAA Working Groups Six Specialty Areas

Working Group 1—Substance Use

Specialty Collections

- Assessment of substance use and substance use disorders
- Substance-specific intermediate phenotypes

Working Group 2—Risk Factors

Specialty Collections

- Substance use-related neurobehavioral and cognitive risk factors
- Substance use-related psychosocial risk factors

Working Group 3—Community, Comorbidities and Outcomes

Specialty Collections

- Substance use-related community factors
- Substance use-related comorbidities and health-related outcomes