

## STANDARDIZING LABORATORY PRACTICES IN PHARMACOGENOMICS

## An ASP Initiative

The American Society of Pharmacovigilance (ASP) is a 501(c)(3) nonprofit organization. ASP is a national biomedical and healthcare network with membership open to all healthcare professionals. ASP's mission is to rapidly and dramatically reduce the high rate of suffering and mortality due to adverse drug events in the US.

## A Collaborative Community

The Standardizing Laboratory Practices in Pharmacogenomics (STRIPE) Collaborative Community was formed in 2020. The purpose of the STRIPE Initiative is to bring together pharmacogenomics stakeholders in a continuing forum of private- and public- sector members, including FDA, to achieve common outcomes, solve shared challenges, and leverage collective opportunities.

The mission of STRIPE is to accelerate the development of personalized medicine practices as a standard of care by uniting patients, providers, industry, regulators, payers, and other key stakeholders. The community seeks to harmonize and optimize standards, practices, and resources related to pharmacogenetics testing that will improve access to safe, accurate, and reliable information about a patient's medication and drug-gene interactions.

## Core Values

- 1. Participation is open to all stakeholders in the field of pharmacogenomics.
- 2. Members represent their larger communities.
- 3. Trust will be fostered through transparency.
- 4. Objectivity will be of highest importance.
- 5. The community will be a catalyst for positive change in research.
- 6. The community serves as a mechanism for cross-sector communication.

## Steering Committee

The Steering Committee has been established to pioneer STRIPE and to set strategic and operational goals relating to STRIPE which will guide its movement and advancement. Members of the Steering Committee will be responsible for representing and securing buy-in among stakeholders and their larger communities on the direction of STRIPE. STRIPE will convene this Committee to provide guidance and input to accomplish community objectives.

## Advisory Board

The Advisory Board is comprised of delegates, one from each of nine subcommittees representing key interests central to the standardization initiative. The board serves to summarize subcommittee activities and advise on the direction and priorities of the community. Advisory Board members chair or co-chair their respective subcommittee.

## Subcommittees

#### **Technology Subcommittee**

The Technology Subcommittee has been proposed to ascertain and evaluate key determinants of variation in laboratory accreditation processes, performance and technical specifications, limitations of systems and rules governing commercially available analytic methods and testing platforms used for pharmacogenetics testing.

### **Regulatory Affairs Subcommittee**

The Regulatory Affairs Subcommittee has been established to assess regulatory, rulemaking and guidance pathways for pharmacogenomic tests. The subcommittee will also identify opportunities for statutory or regulatory reform to reduce regulatory burden and duplication, and to streamline commercialization pathways for pharmacogenomic tests to reach patients.

### **Evidentiary Standards Subcommittee**

The Evidentiary Standards Subcommittee has been established to recommend common evidentiary standards for analytical and clinical validity --using valid scientific evidence --across all stakeholders and to ensure ongoing development of pharmacogenetic tests, including through the use of real-world evidence and real-world data.

### Information Systems Subcommittee

The Information Systems Subcommittee has been proposed to establish and develop projectbased tools and assets for the STRIPE community and all stakeholders, including the architecture, management, assembly and visualization of public-, private-, and open-access data sets; real world evidence, real world data and community-generated data for the benefit of all stakeholders.

## Subcommittees, Continued

### **Clinician Affairs Subcommittee**

The Clinician Affairs Subcommittee has been proposed to identify structural barriers to the adoption of pharmacogenetics testing and ascertain key determinants of variation in clinical utilization, including challenges relating to the ordering, interpreting and delivery of test results

### Patient Advocacy, Access & Equity Subcommittee

The Patient Advocacy, Access & Equity Subcommittee has been proposed to assimilate knowledge, empathy and understanding of the patient experience and journey to highlight gaps in pharmacogenomics literacy, patient engagement and access to treatment.

#### **Communications Subcommittee**

The Communications Subcommittee has been established to design and implement a high-impact, uniform messaging and communications strategy for STRIPE members and stakeholders. The subcommittee will develop relationships with a diverse global network of key opinion leaders, journalists, reporters, publishers, event organizers and other media contacts.

#### International Affairs Subcommittee

The International Affairs Subcommittee has been proposed to unite an international network of key stakeholders in pharmacogenomics and identify opportunities to align global standardization efforts.

### **Consensus Development Subcommittee**

The Consensus Development Subcommittee has been established to design and architect methodologies for enhancing consensus-based recommendations, including patient, provider, laboratory, technology and clinician standards in pursuit of improved cooperation among stakeholders in pharmacogenomics. This effort will incorporate knowledge about current standards and be collaborative with relevant outside organizations so as not to duplicate standards.

## General Committee

The General Committee has been established to provide an open forum to all stakeholders in pharmacogenomics to engage in the development of consensus-based industry standards and collaboration to generate evidence that may dramatically increase access, lower costs and improve patient outcomes relating to pharmacogenetics testing.

## Study Design Task Force

The purpose of the Study Design Task Force is to provide high-level recommendations, tools and resources regarding pharmacogenomics study methods to optimize the regulatory and clinical utility of pharmacogenomics research.

## Current Members

**AbbVie Tiffany Chan** Access Dx Houda Houchad Alva10 Lena Chaihorsky American Clinical Laboratory Association Annette Taylor American Medical Association Geoff Hollett American Society of Pharmacovigilance **Benjamin Brown** Sara Rogers **Arbit Consulting LLC** Wrenda Teeple **ARUP** Laboratories **Rvan Nelson** Ascension Health James Walker Assistance Publique Hopitaux de Paris **Evelyne Jacqz-Aigrain** Assurance Health Data, Inc. Jason Crites Advocates for Universal DPD/DPYD Testing Karen Merritt **BASE10** Genetics **Bethany Miller Boise State University** Jennifer Eichmeyer **Bombay College of Pharmacy** Sakshi Kasat **Brigham and Women's Hospital** Elizabeth Fieg **CAMH & University of Toronto** Daniel Mueller **Cancer Treatment Centers of America** Jamie Joy **Center for Genomic Interpretation** Julie Eggington

Centro di Riferimento Oncologico (IRCCS) Erika Cecchin **Giuseppe Toffoli** Cerner **Terah Collins CFG Health Network** Kenneth Wolstenholme Children's Cancer Hospital Egypt Mohamed Nagy Children's Mercy Kansas City Andrea Gaedigk **Cholangiocarcinoma Foundation** Joanne McIntyre **College of American Pathologists** Helena Duncan Coloplast Vaishnavi Soundararajan **Coriell Life Sciences** Paul Chernin Jeffrey Shaman **Department of Veterans Affairs** Jill Bates Shawn Dalton **Deverka** Consulting Patricia Deverka **Diaceutics** Karen Keating **Duke Center for Applied Genomics** and Precision Medicine Lori Orlando **Duke University School of Medicine** Susanne Haga **Dynamic DNA Laboratories** AJ Exner **Elon University** Melissa Murfin Factor Law Wendell Fortson Farsight Genome Systems **Ragan Hart** 

Members are listed by affiliation, current as of October 2022.

### Current Members, Continued

Genemarkers Ashley Choker Anna Langerveld Genentech Nadia Haque GeneYouIn Inc Ruslan Dorfman Genome Medical Gillian Bell Genomind **Betsy Bove** Daniel Dowd David Krause Paul Seesman Gabriela Williams Genoox Moshe Einhorn GenXvs Scot Fraser Karl Pringle Rory St Clair **Geriatric Oncology Consortium** Howard McLeod **Global Pharmacovigilance Society** Chinmaya Mahapatra **GROSS** Advantage Iris Grossman Harvard Medical School Christine Lu Helix Elissa Levin Hope and Healing Center and Institute Karina Yonekawa-Blest Illumina Jamal Mitchell Independent Chara Free Indiana University Victoria Pratt Emma Tillman

**Innovation Policy Solutions** Megan Anderson Brooks **Innovative Gx Laboratories** Ruben Bonilla Guerrero Institute of Genetics and Animal Biotechnology of the Polish Academy of Sciences Atanas Atanasov Intermountain Healthcare Christine Formea Invitae Sienna Aguilar Kristine Ashcraft Valerie Baron Ed Esplin **Tina Hambuch** Seved Ali Hosseini Anna McCollister Chad Moretz Johns Hopkins Aramco Healthcare Ayman Al-Qaaneh **Kaiser Permanente** Alison Quinn Laboratory Medicine and Pathology Advisors Axel Baez-Torres Ladder Therapeutics Rabia Khan Levine Cancer Institute Jai Patel Lineagen Annie Baxter Manchester University David Kisor Marshfield Clinic Health Systems, LLC Emili Leary Mayo Clinic Jyothsna Giri Adrijana Kekic Sumithra Mandrekar

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## Current Members, Continued

Medical Device Innovation Consortium Jon Hunt Dure Kim **Medigenics Consulting LLC** Josiah Allen MedStar Health Max Smith metaHealth Insights and Innovation, Inc. Jason Alacapa **Microsoft** Andrew Alexander **Missouri Pharmacogenomics consulting** Behnaz Sarrami MvEngene Inc. Trent Marx National Cancer Institute Lisa McShane Nationwide Children's Hospital Susan Colace Nicklaus Children's Hospital Sharmeen Roy Yana Vorontsova Nova Southeastern University Anastasios Lymperopoulos OneOme Kathleen Bosse **Bernard Esquivel** Cathrvn Jennissen Ellie Jhun Eimear O'Mahony Jessica Savieo Helena Soares **Opus Three LLC** Felix Frueh **Oregon Health & Science University** Ben Kong Parallel Profile Cathy Cather Patient Safety Impact Rachel Brummert

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## Current Members, Continued

Sundseth Consulting LLC Scott Sundseth SUNY Upstate Medical University Karen Albright Texas Tech University Health Sciences Center School of Pharmacy J. Shawn Jones Irene La-Beck Vivian Pham The Christ Hospital Health Network **Burns Blaxall** The Golden Helix Foundation Christina Mitropoulou The Smart Genes. LLC Brahma Sharma **Thermo Fisher Scientfic** James Elliott Tricia Kenny Jenna Youngkin Translational Software Catherine Peng Transonic Filip Konecny UgenTec, Inc. Steven Van Vooren University of Alabama at Birmingham **Brittney Davis** Bruce Korf Nita Limdi University of Calgary Chad Bousman University of Cincinnati Carrie Hoefer University of Connecticut Angela Su University of Florida Kristin Wiisanen University of Michigan College of Pharmacy Daniel Hertz Jasmine Luzum

University of North Carolina at Chapel Hill Craig Lee University of Patras Department of Pharmacy **George Patrinos** University of Pennsylvania Lisa Varughese University of Pittsburgh Philip Empev Katherine Riden University of South Florida College of Pharmacy Teresa Ho University of Utah Gwendolyn McMillin U.S. Food & Drug Administraion Daniel Edelman Michael Pacanowski **Brittany Schuck Robert Schuck Timothy Stenzel** USF Taneja College of Pharmacy Wendy Updike Virginia Commonwealth University Youssef Roman Washington State University **Rustin Crutchlev** Wave Life Sciences Jaya Goyal Wentworth-Douglass Hospital Elizabeth Snarr WoltersKluwer Kandace Schuft

## Sustained Engagement

STRIPE continues to develop a common agenda for addressing challenges in pharmacogenomics and personalized medicine to achieve its aim of large-scale change: a performance measurement system, mutually reinforcing activities, and enhanced communication channels. Together, members will guide vision and strategy, support activities, establish shared measurement practices, build public will, advance policy and mobilize resources.

#### Shared Measurement System

STRIPE will develop a list of indicators that determine how success will be measured and reported. This includes but is not limited to quality measurements, performance measurements, safety measurements and value-based measurements. This establishes a basis for assessment and reassessment processes as stakeholders implement its activities and sets the stage for ongoing course adjustments.

#### **Continuous Community Development**

STRIPE is built to last. Every member counts. The community will grow and prosper over time by creating and nurturing a vibrant ecosystem of ideas, perspectives and people. Community-development activities are deliberate, goal-oriented and purpose driven. The community is driven by scientific inquiry, skills, capabilities and competence to advance the STRIPE mission. The Steering Committee, Subcommittees and General Committee provide ongoing opportunities to magnetize talent, encourage new member involvement and discover new opportunities for focus and attention on pressing issues and concerns. This does not, of course, require that all members do the same things. There are nine pathways for participation, incorporating various levels of involvement which enable systematic growth. There is no limit on members or participation, and this allows flexibility in determining new pathways for participation in the future.

### Organizational Learning

The community will continuously seek and explore how pharmacogenomic information can be effectively and efficiently delivered to patients and clinicians for improving care. This includes creating and implementing new ways of thinking and translating research and evidence into actionable clinical guidelines, protocols, care pathways and opportunities to improve patient outcomes across the entire pharmacogenomics value chain. Over time the community will build and grow an invaluable portfolio of assets enabling knowledge-generation and organizational learning that may rapidly diffuse among health care systems, physicians and patients, enabling a positive feedback loop and rewards-based system for breakthroughs, thus encouraging more innovative thinking.

### Shared-Valued Generation

The community will pursue success in a way that yields societal benefits through collective impact that will benefit all stakeholders in pharmacogenomics. The Initiative will advance progress and create new and unimagined economic, clinical and medical opportunities for improving patient outcomes, and making the safety and effectiveness of pharmacogenetics testing sound science.

### Connect



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