

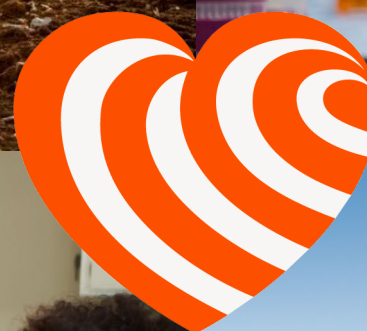
INTRODUCING



# HHRA

Heartland Health  
Research Alliance

*Cutting-edge science  
to enhance public and  
environmental health*





# WHY HHRA?

Industrial agriculture has maximized production at the expense of nutritional quality, food safety, farmworker well-being, and animal welfare.

Pesticide exposures are ubiquitous, as are adverse public health outcomes. A systemic public policy response is needed.

Public health science is essential in driving and guiding innovation toward farming systems that are productive **and** inherently nourishing for the soil, people, and animals — and as a result, truly sustainable.





# OUR WORK

Our cutting-edge research is conceived, conducted, and managed by scientists, physicians, and clinicians.

These are the people on the front lines, worried by what they see day to day. Together, we are asking hard questions about how agriculture and food technology are impacting human health.



# Targeted Science for Vulnerable Human Populations

Public health outcomes arise from food system choices. Our COVID nightmare has driven home the importance of confronting the root causes of avoidable morbidity and mortality. Farmers, the food industry, and policy-makers must play leading roles in re-engineering food systems to promote – not undercut – health.

HHRA science will focus on key health pressure points in the human population – pregnant women, newborns, children, the elderly, and people dealing with chronic or degenerative diseases.



# HOW WE DO SCIENCE

Science is uncovering multiple, new pathways through which food and agriculture can alter health trajectories across populations. ***But it can and must go faster.***

We will synergize and integrate the latest scientific knowledge to plan and carry out clinical studies that connect dots and isolate factors contributing to observed, adverse health outcomes.







HHRA science will pioneer creative ways to integrate genetics and genomic profiling, toxicology, epidemiology, and clinical studies. This is the surest way to accelerate scientific discovery.

Then, our focus must expand to encompass changing laws, policies, and research investments in order to enhance public health by undercutting that which erodes it.

# HOW WE FUND SCIENCE

Public health science needs new funding streams, especially research that is too hot to handle for government agencies.

HHRA will work to attract new money *and* diversify the sources of funding supporting our research projects.

Plus, HHRA-funded projects will produce critical, initial findings to help research teams successfully compete for NIH, NSF, and EPA grant funding – further diversifying our funding portfolio.



Trust in science has taken a hit over the last four years. Industry money now dominates public university research across nearly all agricultural, food science, and nutrition disciplines.

Skepticism over the impact of who is funding science has never been higher, or more justified.

HHRA will face it head on. We will build trust and respond through transparency, adherence to credible conflict of interest policies, and quality science that stands on its own.





# OUR TEAM

## Board of Directors



### Jeanne Conry, MD, PhD

President-elect of the International Federation of Gynecology and Obstetrics and Chair of the Women's Preventative Services Initiative, Dr. Conry spent 28 years as a practicing obstetrician gynecologist with Kaiser Permanente.



### Marlaina Freisthler

SECRETARY

With a background in statistics and legal studies, this mom of two with roots in the Midwest is conducting research on behalf of the HHRA as a PhD fellow at George Washington University.



### Thomas Green, PhD

TREASURER

Co-Founder of IPM Works, Tom has been a national leader in market-based sustainability and Integrated Pest Management (IPM) initiatives for more than thirty years.



### Robin Greenwald

VICE-CHAIR

A lawyer who specializes in environmental pollution and consumer protection, Robin is Group Chair for the Weitz & Luxenberg law practice.



### David Haas, MD

CHAIR

Dr. Haas is an obstetrics researcher at the Indiana University School of Medicine, where he has helped to build the university's research program.

# Projects and Partners

Our  
Flagship  
Project

  
**The Heartland Study**  
Supporting Children's Health  
In the Heartland and Beyond


OVERSEEN BY THE **Heartland Study Management Team**

## Heartland Study Clinical Research

- Multi-center birth cohort study, partnering with hospitals and birth centers across 13 Midwestern states
- Recruit and enroll 2,000 pregnant women and their babies
- Collect and analyze herbicide levels in at least 5 urine samples per mother-infant pair
- Complete medical record reviews and developmental assessments to track pregnancy outcomes and health of moms and babies through age 3

## Herbicides in Humans

- Identify sources of stored historic urine samples
- Analyze for herbicide levels
- Track baseline levels of herbicide exposures
- Monitor trends over the last 20 years

 **HEARTLAND STUDY TARGET HERBICIDES**  
Glyphosate, Dicamba and 2,4-D



**Cultivating Change**  
Via radio and podcast



## Analytical Methods

- Develop and refine methodologies to analyze pesticide use and exposure
- Implement rigorous biospecimen storage and retrieval protocols

## Health Impacts of Pesticide Exposure

- Build a comprehensive scientific knowledge base on the human health impacts of pesticide exposure
- Support research to look for markers of herbicide-induced epigenetic changes
- Quantify the impact of cumulative pesticide exposure on human health

## Media and Communications

- Widely communicate science on pesticides and public health via website and social media
- Conduct smart and targeted public outreach to raise awareness
- Use dynamic data visualizations and other cutting-edge tools to make science meaningful to multiple audiences

## Policy Priorities



Disseminate Science to Protect Public Health



Promote Weed Management Solutions Supported by Sound Science



Pesticide Policy Reform

## Implementation Partners



 **Franciscan**  
HEALTH



**INDIANA UNIVERSITY**  
SCHOOL OF MEDICINE

**GUNDERSEN**  
HEALTH SYSTEM.

*Institut national  
de santé publique*  
**Québec**

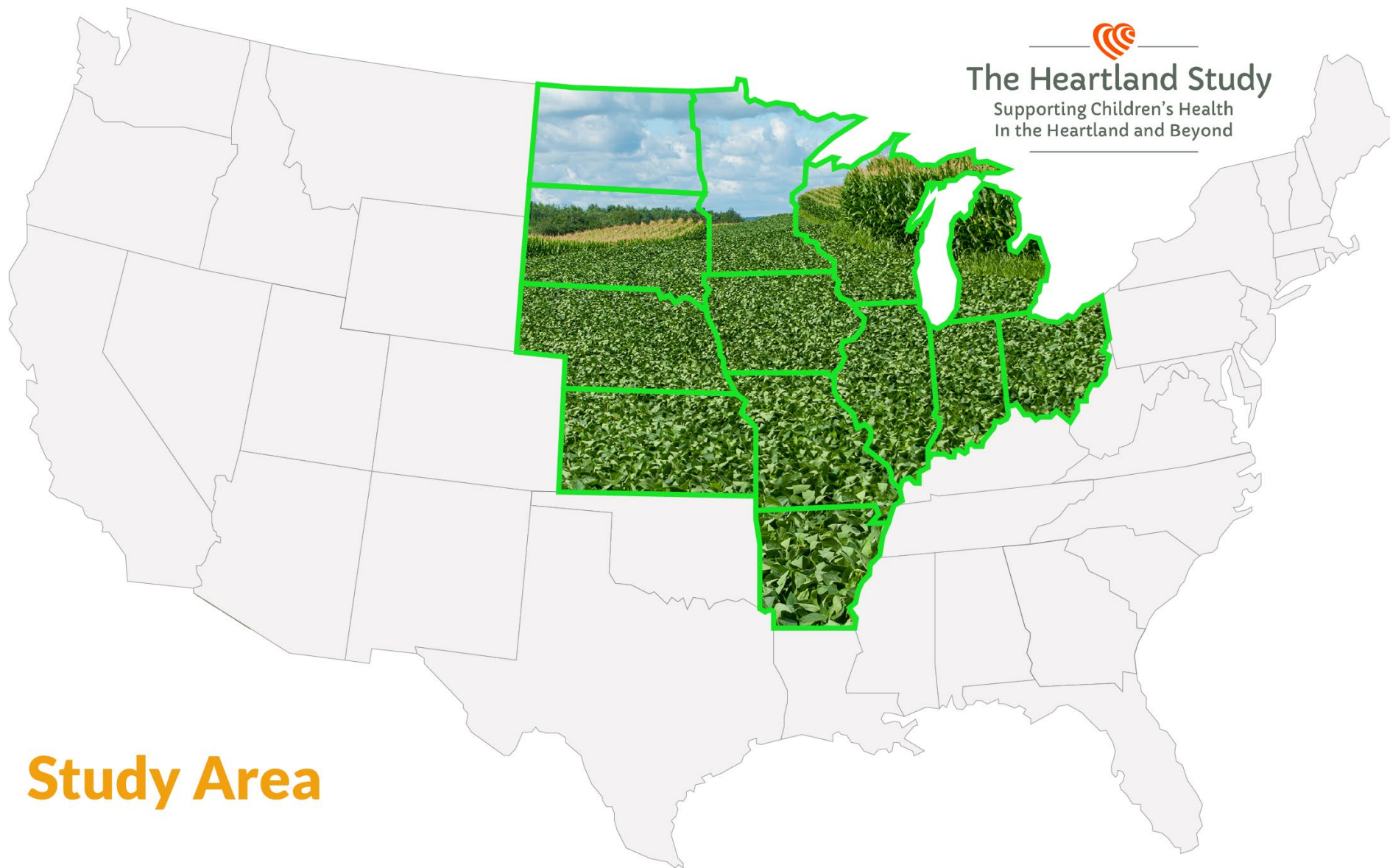


  
**Istituto Ramazzini**  
COOPERATIVA SOCIALE ONLUS



Conducting science to enhance public and environmental health amidst rising pesticide use. [www.hh-ra.org](http://www.hh-ra.org)





  
**The Heartland Study**  
Supporting Children's Health  
In the Heartland and Beyond

## CORE HYPOTHESIS

Is rising herbicide exposure leading to reproductive problems, adverse birth outcomes, or developmental delays in America's Heartland?

**Study Area**



# The Heartland Study

## OUR FLAGSHIP PROJECT



### RECRUIT AND ENROLL

Recruit 2,000 pregnant women at partner hospitals and birth-centers across the 13-state Heartland region. Enroll moms and their babies into the Heartland Study research protocol.



### COLLECT AND ANALYZE

Collect at least 5 urine samples per mother-infant pair and analyze for levels of exposure to herbicides such as glyphosate, dicamba, and 2,4-D.



### TRACK HEALTH & DEVELOPMENT

Track pregnancy and delivery outcomes, health of moms and babies, and children's developmental milestones through at least age 3.



# RAMAZZINI PARTNERSHIP

The Ramazzini Institute is an internationally renowned laboratory in Bologna, Italy conducting the Global Glyphosate Study (GGS).

- Two year, multi-generational feeding trial analyzing glyphosate toxicity
- HHRA funding allowed inclusion of US Roundup formulation that contains POEA surfactants (banned in Europe)
- Ensures that the GGS will be relevant to the EPA and American public health



Istituto Ramazzini  
COOPERATIVA SOCIALE ONLUS

# COMMUNICATIONS, OUTREACH, & ENGAGEMENT

A Coordinated Strategy



## Umbrella Organization

- Primary website and social media channels
- Fiscal agent and primary fundraiser



## Flagship Project

- Focus of targeted outreach and media efforts
- Key source of published science and “news”



## Cultivating Change

- Radio and podcast
- Media and social channels to deliver HHRA science and messaging



# YOU CAN HELP!

Donate at:  
[www.hh-ra.org/donate](http://www.hh-ra.org/donate)





# THANK YOU

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