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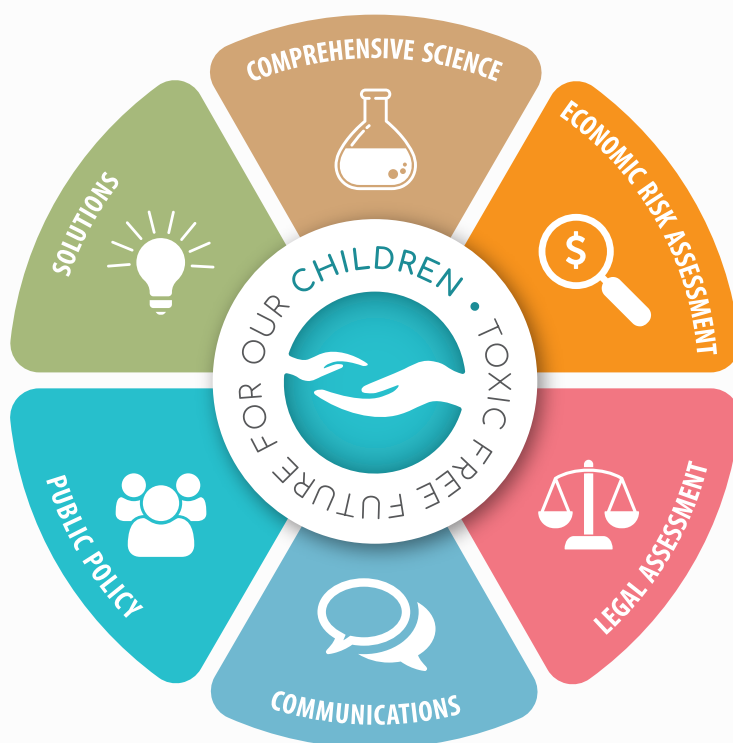


Toxic Free Future for Our Children

Toxic Free Future for Our Children has gathered together a group of top global experts on the subject of environmental toxicants, to inform and create comprehensive economic and legal risk assessments on the use of chemicals that could be causing serious harm to global public health.

Our expert comprehensive risk assessments, which will be summarized and communicated by an experienced media team, will enable policy makers, health insurers, investors, brands and consumers to better understand why we need to work together to turn off the tap of toxic chemicals and replace them with them with viable, safer alternatives.

Toxic Free Future for Our Children is supported by the Vatican's [Laudato Si' Anniversary Year](#), Partnerships for Change and The Detox Project.



Rapid Translation of Science to Protect Global Public Health

Project Introduction

The COVID-19 crisis has shown that it is possible to accelerate all phases of the clinical research process from basic lab methods to expedited funding and accelerated translation into application. It should be possible to use the experience gained in this pandemic to ask whether some of these “fast track” approaches can be considered for other threats to global public health.

With regards to environmental toxicants, the scientific community, as well as those who assess and manage health risk, are all aware that the current system is far too slow when it comes to translating comprehensive scientific research results into outcomes that protect human health. To fast track this dangerously slow system, our concentration will be on the intersection between those bearing the cost of harmful health outcomes and the scientists who produce the evidence.

This project will connect **risk assessors and risk managers** in the areas of health insurance, pension management, the legal industry and others, directly to the scientists carrying out vital research projects in the area of ubiquitous environmental toxicants, to provide a faster path to acting on the pivotal evidence. This continuous connection will enable rapid knowledge transfer that will directly guide the comprehensive science and the detailed risk assessments created through this project.

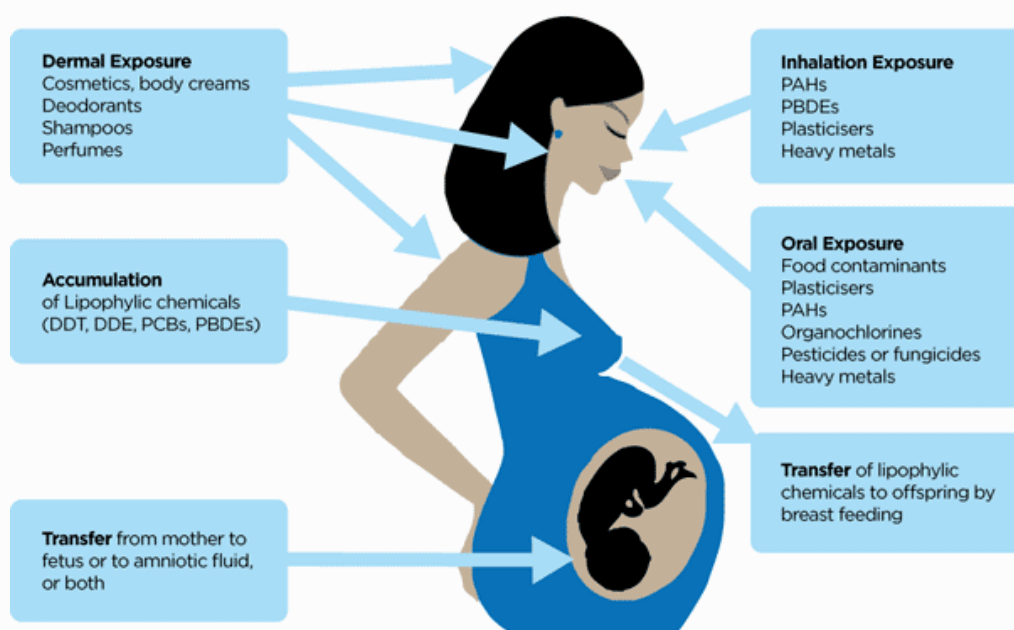
The reporting of the research results and risk assessments in an accurate, easily digestible and responsible way is also an important part of this project, for which we are involving top experts in the area of science media.

The rapid translation of independent science on environmental toxicants will lead to the following outcomes:

- ✔ **Increased Public Awareness** surrounding Exposure to Environmental Toxicants and improvement in science literacy
- ✔ **Accurate Economic Risk Assessment** of Exposure to Environmental Toxicants, with a more sophisticated focus on exposure pathways, stratification of risk groups and physiological mechanisms of action

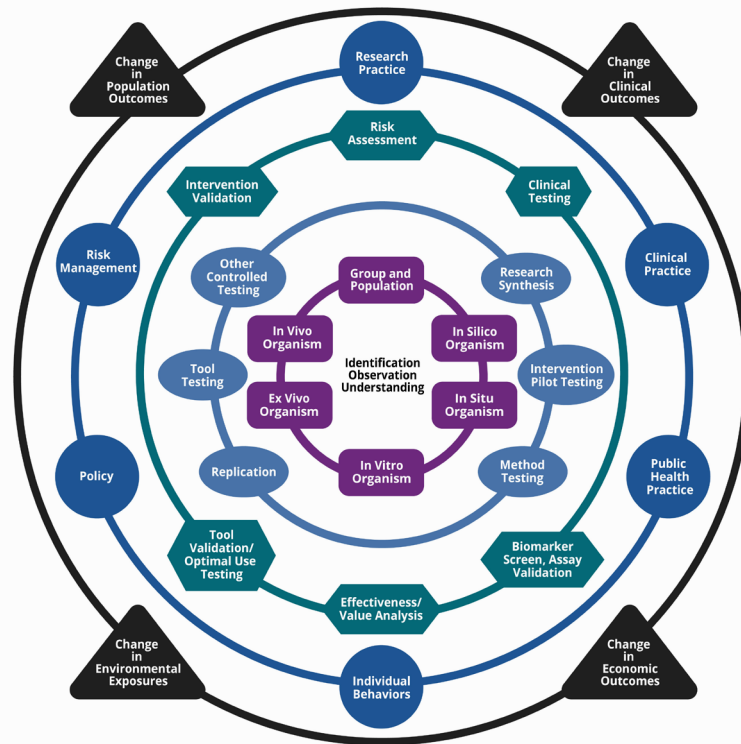
- ✓ **Accurate Legal Assessment** of Exposure to Environmental Toxicants
- ✓ **Rapid and Evidence-Based Policy Changes** to Reduce Exposure and Protect Public Health when Required

EVERY DAY ROUTES OF TOXIN EXPOSURE



The U.S. National Institute of Environmental Health Sciences and other health institutes around the world use variations of the [Translational Research Framework](#) below as a way to track new ideas and knowledge as they move through the translational research process.

We will work diligently within this framework, as a starting point, to speed up knowledge and information transfer between the different sectors outlined and to reach outcomes in a much faster way than currently possible.



Examples of Success

There are a number of examples of success of translating scientific research on environmental toxicants to outcomes that protect global public health, these include:

→ Lead

In the 1970s, Dr. Philip Landrigan (who is on our Scientific Panel) and a group of CDC researchers, showed lead poisoning in children living near ore smelters. These studies were among the first to document subclinical neurotoxicity with IQ loss and shortened attention span in asymptomatic children with increased lead exposure. They led to Dr. Landrigan becoming centrally involved in the decision process to remove lead from gasoline in the USA, an action that reduced childhood lead poisoning by 90+% and resulted in a nearly 5-point gain in the mean IQ of all American children born since 1980. This gain in intelligence has increased national economic productivity and will yield an economic benefit of US\$200 billion (range \$110 billion–300 billion) over the lifetimes of each annual cohort of children born since 1980, an aggregate benefit to-date of over \$6 trillion.

→ Asbestos, Vinyl Chloride, Benzene, Trichloroethylene, Formaldehyde, Mancozeb

Toxicological studies are essential for prevention, in fact they are the only way to address the harmful effects of a substance prior to human exposure. In particular, long-term car-

cinogenicity studies in rodents have enabled the identification of over two thirds of all human carcinogens. The largest cancer bioassay programs in the world are the National Toxicology Program in the U.S. and the Ramazzini Institute in Europe. Substances demonstrated to be carcinogenic include: asbestos, vinyl chloride, benzene, formaldehyde, trichloroethylene, fuels and their components and additives, pesticides and artificial sweeteners. Results of these studies have provided the scientific basis for carcinogen evaluation performed by the International Agency for Research on Cancer (IARC) and other agencies, leading to lower levels of exposure to various agents present in work-places and in the general environment, ultimately saving millions of lives as in the case of asbestos, now banned in over 50 countries.

Below is a table showing the changes in classification of specific environmental toxicants following Ramazzini Institute toxicological studies over the last 40 years:



Istituto Ramazzini
COOPERATIVA SOCIALE ONLUS

Ramazzini Institute (RI): Protecting Public Health

COMPOUND	RI Study Results Published (Year)	Before RI Study Results	After RI Study Results
VINYL CHLORIDE	1974	Limit 500 ppm	Limit 1 ppm
BENZENE	1979	Non classified	Carcinogen (IARC 1)
TRICHLOROETHYLENE	1988	Non classified	Carcinogen (IARC 1)
FORMALDEHYDE	1989	Non classified	Carcinogen (IARC 1)
MANCOZEB	1989	Non classified	Carcinogen in California
FLUOREDENITE	2004	Non classified	Carcinogen (IARC 1)

Comprehensive Science

This project will support the development of a new comprehensive scientific study model for environmental toxicants to fill the many gaps of understanding we have on environmental toxicants, with the support of knowledge transfer from risk assessors and risk managers.

There is often a lack of understanding in the scientific community as to what is important to concentrate on during a study from a risk assessment angle – we aim to bridge this knowledge gap, so as to enhance the speed of translation of the comprehensive scientific model results mentioned above into concrete outcomes to protect global public health.

Risk assessors and risk managers will be able to guide scientists as to what specific endpoints are of particular interest. Evidence and gaps in knowledge will be assessed with systematic reviews of currently available science on different outcomes related specific ubiquitous environmental chemicals. Systematic reviews are in fact the cornerstone of evidence-based evaluation in occupational and environmental health. Unfortunately, in many instances, toxicological and epidemiological evidence is not available and comprehensive studies need to be performed to obtain evidence on the effects of chemicals.

This project will directly support multi-institutional studies that take the information from comprehensive human exposure models, including exposure routes and exposure levels, and use it to guide long-term animal models (rats/mice) to answer the question: **Is the chemical being studied safe at real-world levels of exposure?**

An example of this type of study, which is currently underway, is the [Global Glyphosate Study](#) being led by the Ramazzini Institute alongside multiple European and U.S. independent institutions.

Economic Risk Assessment

Economic risk assessment on the use of specific environmental toxicants is vital for investors, brands, health insurers, pension funds and governments.

It is also an important tool for scientists to translate their research results to the general public and all of the key parties mentioned above.

Economic risk assessors themselves are a key knowledge holder when it comes to finding critical gaps in scientific and public knowledge on environmental toxicants, which once identified need filling through targeted research projects to enable a more complete economic assessment.

This project will support the development of detailed economic risk assessments on ubiquitous environmental toxicants both alone and in combination. We will also support the ongoing knowledge transfer between economic risk assessors and scientists.

Our economic risk assessments will help the investment community, which is already starting to wake up to the risk companies face when they are unaware that their products and supply chains contain toxic chemicals. This creates hidden financial and economic risks for investors and can create a higher likelihood of fines, lawsuits, market share loss, lower market value and a loss of consumer confidence and trust. According to legendary investor Jeremy Grantham, who predicted both the tech and housing bubbles, "Toxic chemicals are an unseen health risk to people — and they're about to become a financial risk to the chemical companies who make them, and the investors who trade them."



Legal Assessment

Legal experts and the legal system are increasingly involved in helping to establish liability and damage models for environmental remediation, personal injuries and business losses from toxic harm.

Legal action and successful court decisions lead to monetary compensation for victims, and also help to reduce and prevent exposure of the public to specific chemicals, as in the case of tobacco, asbestos and other harmful products.

Recent court rulings and settlements, such as the ones below, have created renewed interest in environmental toxicants.

- ➔ Courtroom verdicts finding that Roundup weedkiller caused Non-Hodgkin lymphoma led to a [\\$10.9 Billion proposed partial settlement](#) by Bayer/Monsanto.
- ➔ A [\\$4.7 Billion jury finding](#) for ovarian cancer from asbestos found in Johnson & Johnson's talcum powder has been upheld by trial and appellate courts so far.

For every case that makes the headlines there are many more that are settled for substantial but confidential values.

This project aims to connect legal experts with scientists, enabling a transfer of knowledge, helping the scientific evidence be accurately translated into a legal framework. It will also help inform scientists about which areas of inquiry are most important for legal experts to explore.

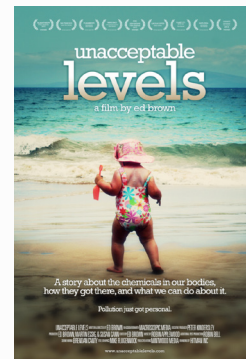
Media

To support the accurate translation of the comprehensive scientific study results, economic assessments and legal assessments from this groundbreaking project, it is important to create a comprehensive media approach involving the constant building of public awareness regarding ubiquitous environmental toxicants.

This will be done in multiple ways:

- a)** Creating powerful connections to mainstream media on this subject by working with experts who have already shown success in this area. The aim is to become one of the top go-to sources for the media on the subject of environmental health and ubiquitous environmental toxicants.
- b)** Supporting the development of 24/7 news platforms on environmental chemicals that keep interested consumers and other parties up-to-date on news and views. Examples of this type of platform include [Environmental Health News](#) and [Sustainable Pulse](#).
- c)** Supporting the development of short videos designed for the social media era as well

as longer in-depth documentaries on the subject of environmental toxicants, in the same ilk as *Overload* ([Watch Here](#)) and *Unacceptable Levels* ([Watch Here](#)).



WHO IS INVOLVED?

The Scientific Panel:

Dr. Linda Birnbaum: Former Director of the National Institute for Environmental Health Sciences and the National Toxicology Program

Dr. Philip Landrigan: Director, Program for Global Public Health and the Common Good, Boston College

Dr. Daniele Mandrioli: Director, Cesare Maltoni Cancer Research Center, The Ramazzini Institute

Dr. Christopher States: Director, Center for Integrative Environmental Health Science, UofL

Dr. Aruni Bhatnagar: Director, Christina Lee Brown Envirome Institute at the University of Louisville

Dr. Ted Smith: Director of the Center for Healthy Air, Water and Soil and Research Translation Core Leader for the University of Louisville Superfund Research Center at the Envirome Institute

Dr. Tracey Woodruff: Director of the Program on Reproductive Health and the Environment at UCSF

Dr. Melissa Perry: Professor and Chair, Department of Environmental and Occupational Health, Milken Institute School of Public Health, The George Washington University

Dr. Paul Scheepers: Research Group Leader, Risk Assessment and Molecular Epidemiology, Radboud University Medical Center

Dr. Vivi Schlünssen: Department of Public Health, Institute of Environmental and Occupational Medicine, Aarhus University

Dr. Jia Chen: Professor in the Departments of Environmental Medicine and Public Health, Pediatrics and Oncological Sciences at the Icahn School of Medicine at Mount Sinai

Dr. Shanna Swan: Professor in Environmental Medicine & Public Health and Professor in Obstetrics, Gynecology and Reproductive Science at the Icahn School of Medicine at Mount Sinai

Risk Assessment:

Karen Mathiasen: Senior Advisor in the Office of the US Executive Director, World Bank

Dr. Wendy Wagner: Richard Dale Endowed Chair in Law, The University of Texas at Austin, School of Law

Dr. Carl Cranor: Distinguished Professor of Philosophy, University of California, Riverside

Media:

David Fenton: Founder of Fenton Communications

Julie Bergman: Balcony Films

Soozie Eastman: Overload: America's Toxic Love Story

Leah Segedie: Mamavation

Sue Taggart: ADinfinitem

Jim Morris: Public Health Watch

Project Organizational Team:

Anne Robertson: Toxic Free Future for Our Children

Henry Rowlands: The Detox Project

Jacqueline Miller: Partnerships for Change

Contact:

Henry Rowlands: ✉ henry@detoxproject.org

Meeting Agenda

Tuesday, December 8th (9 AM - 11 AM PDT)

Toxic Free Future for Our Children

*Rapid Translation of Science to
Protect Global Public Health*

(2-hour Zoom Webinar)

- ✔ Introduction to the Project – 5 Minutes
- ✔ Comprehensive Science on Environmental Toxicants – 20 Minutes
- ✔ Economic Risk Assessment on Environmental Toxicants – 15 Minutes
- ✔ Legal Assessment on Environmental Toxicants – 15 Minutes
 - ✔ Media on Environmental Toxicants –15 Minutes
Including Trailer of 'Overload' Documentary Film
- ✔ Questions from Attendees – 50 minutes