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Chair FIGO Committee on Climate Change a
Environmental Exposures
Telehealth Lead
ACOG
FORUM BOD

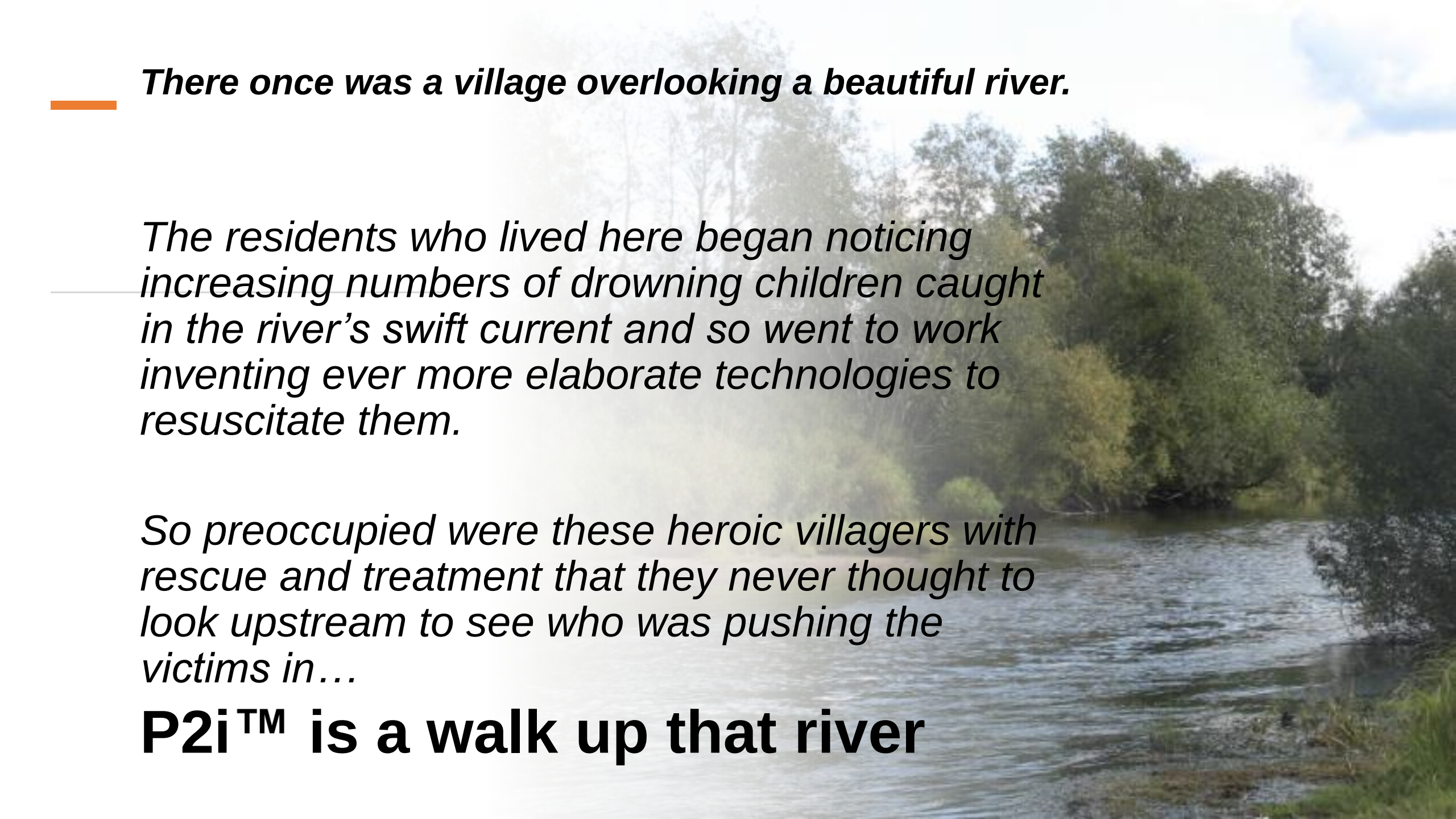
PRECONCEPTION TO INFANCY: Innovation, Health, Empowerment

There once was a village overlooking a beautiful river.

The residents who lived here began noticing increasing numbers of drowning children caught in the river's swift current and so went to work inventing ever more elaborate technologies to resuscitate them.

So preoccupied were these heroic villagers with rescue and treatment that they never thought to look upstream to see who was pushing the victims in…

P2i™ is a walk up that river



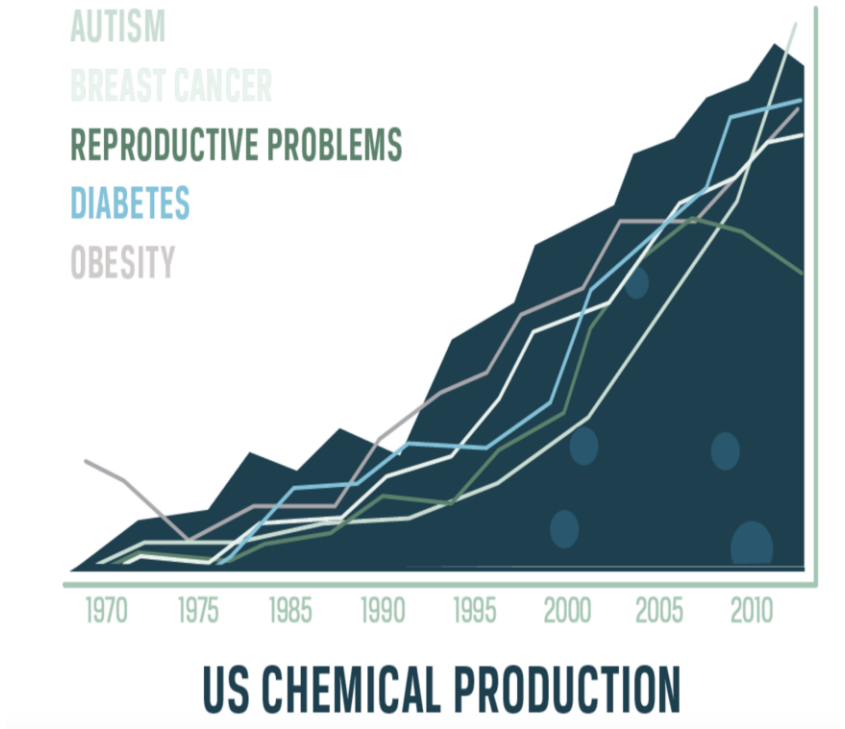
URGENCY

We are immersed in a pervasive sea of harmful chemicals

These toxics are significantly affecting maternal health, children's health and contributing to chronic health conditions.

This sea of chemicals and toxics – are hidden from us and can damage the fetus

According to the EPA out of approximately 83,000 chemicals currently in use, only about 1% have undergone safety testing.



https://www.epaoig.gov/sites/default/files/reports/2023-10/_epaoig_20231012-24-f-0002_cert_0.pdf

Toxic Chemicals can cross the Placenta…with serious consequences

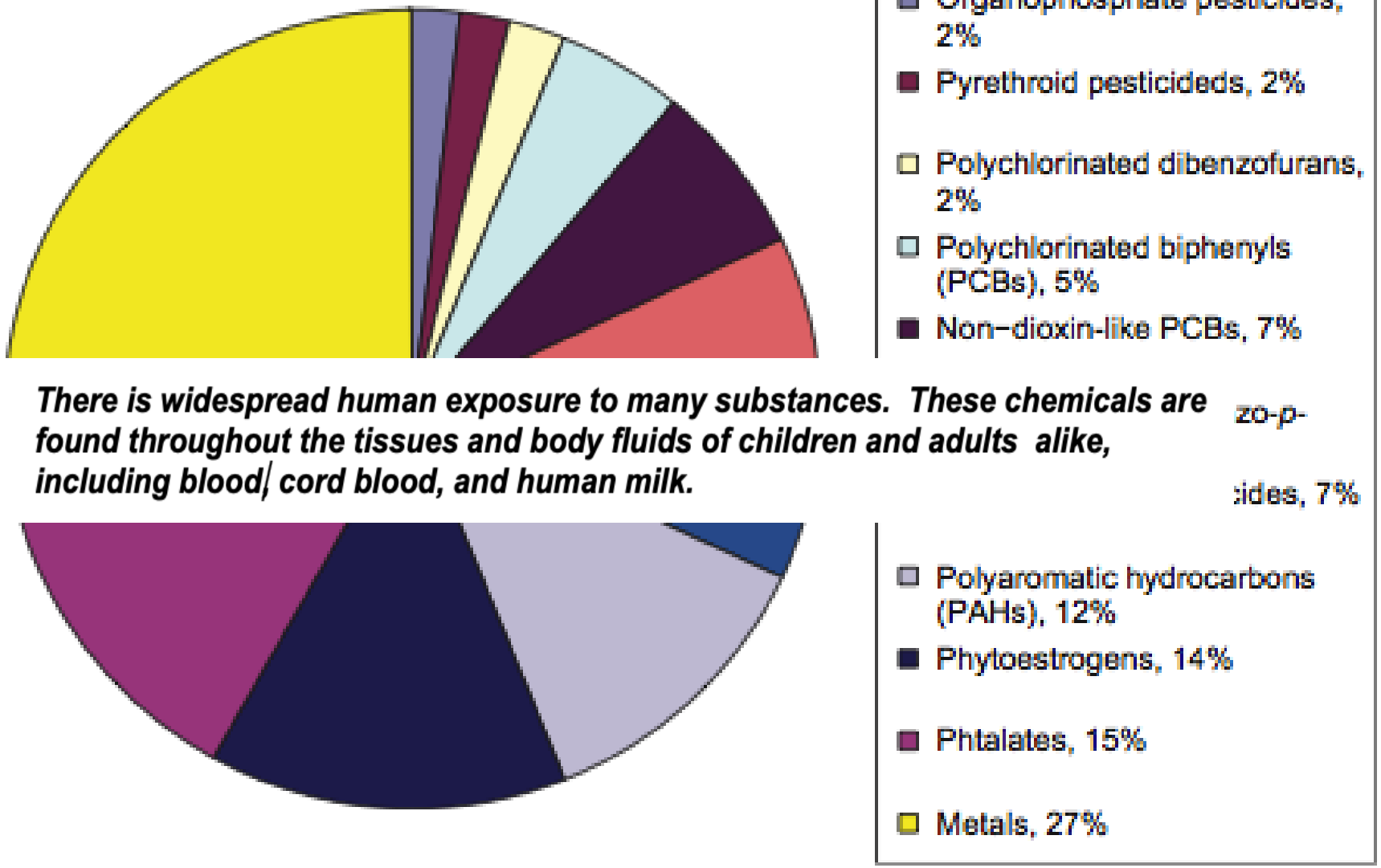
It was believed that the placenta PROTECTED the FETUS from most environmental chemicals and pollutants.

Research reveals that during this crucial period, when the fetus's organs, vessels, membranes, and systems rapidly evolve from single cells to their complete forms, the umbilical cord transmits not only vital nutrients but also a continuous flow of industrial chemicals, pollutants, and pesticides

These contaminants cross the placental barrier as easily as the residues from drugs, smoking and alcohol. This phenomenon is referred to as the "body burden," reflecting the pervasive pollution that affects everyone globally, including unborn babies.

Toxic Women - Toxic Baby

95% of women have high levels of chemicals during pregnancy



NIOSH has identified three priority areas for the occupational exposome:

1. **Invest and explore new technologies**
2. **Identify relationships between occupational exposures and health outcomes**
3. **Develop biomonitoring techniques**

NIEHS/EPA Children's Environmental He
and Disease Prevention Research Cente
Protecting Children's Health for a Lifeti

NIH National Institute of Environmental Health Sciences

EPA

National Institutes of Health · U.S. Department of Health and Human Services

EPA United States Environmental Protection Agency

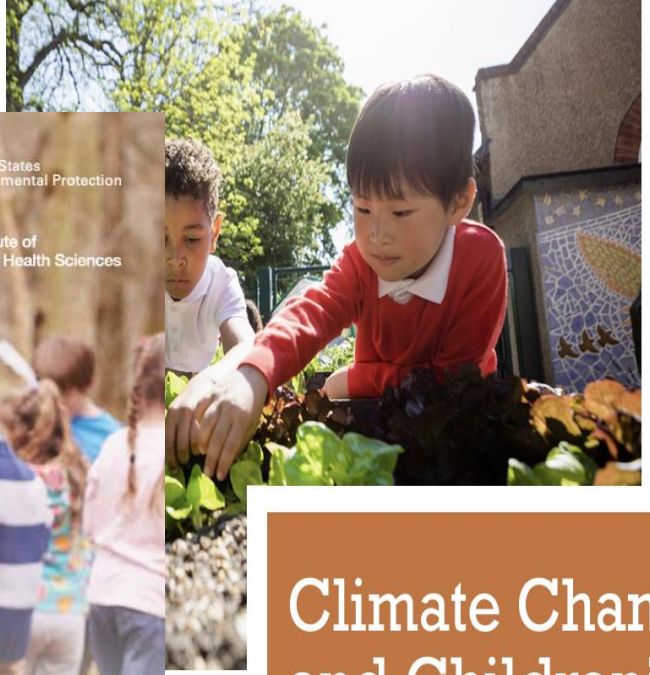
NIH National Institute of Environmental Health Sciences

NIEHS/EPA CHILDREN'S ENVIRONMENTAL HEALTH AND DISEASE PREVENTION RESEARCH CENTERS

IMPACT REPORT

PROTECTING CHILDREN'S HEALTH WHERE THEY LIVE, LEARN, AND PLAY

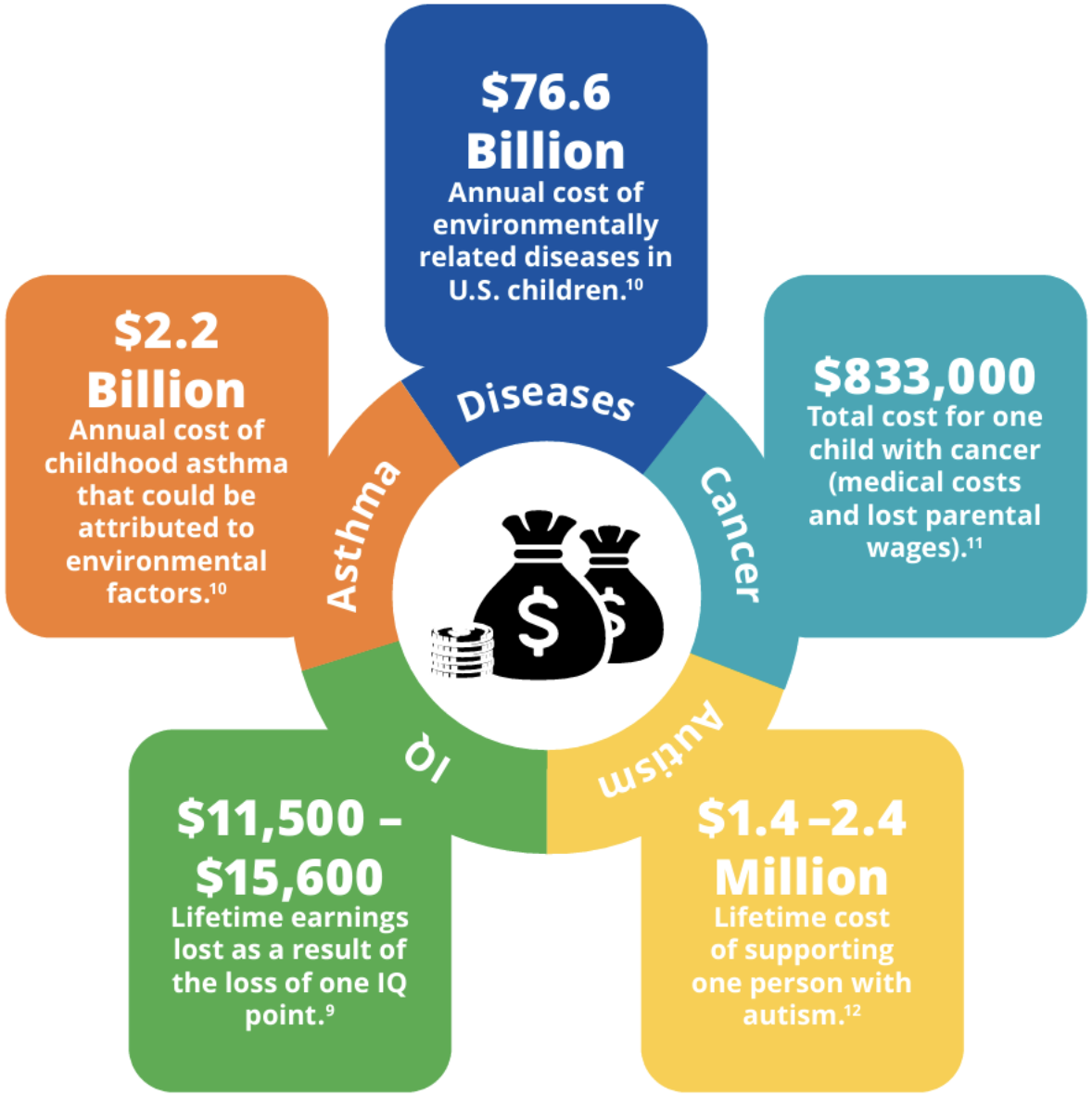
EPA/600/R-17/407



Climate Change and Children's Health and Well-Being in the United States

APRIL 2023

Children's environmental health has a significant impact on society



1 in 42
8-year-old boys have autism.[3]

The First 1300 Days Preconception to Infancy

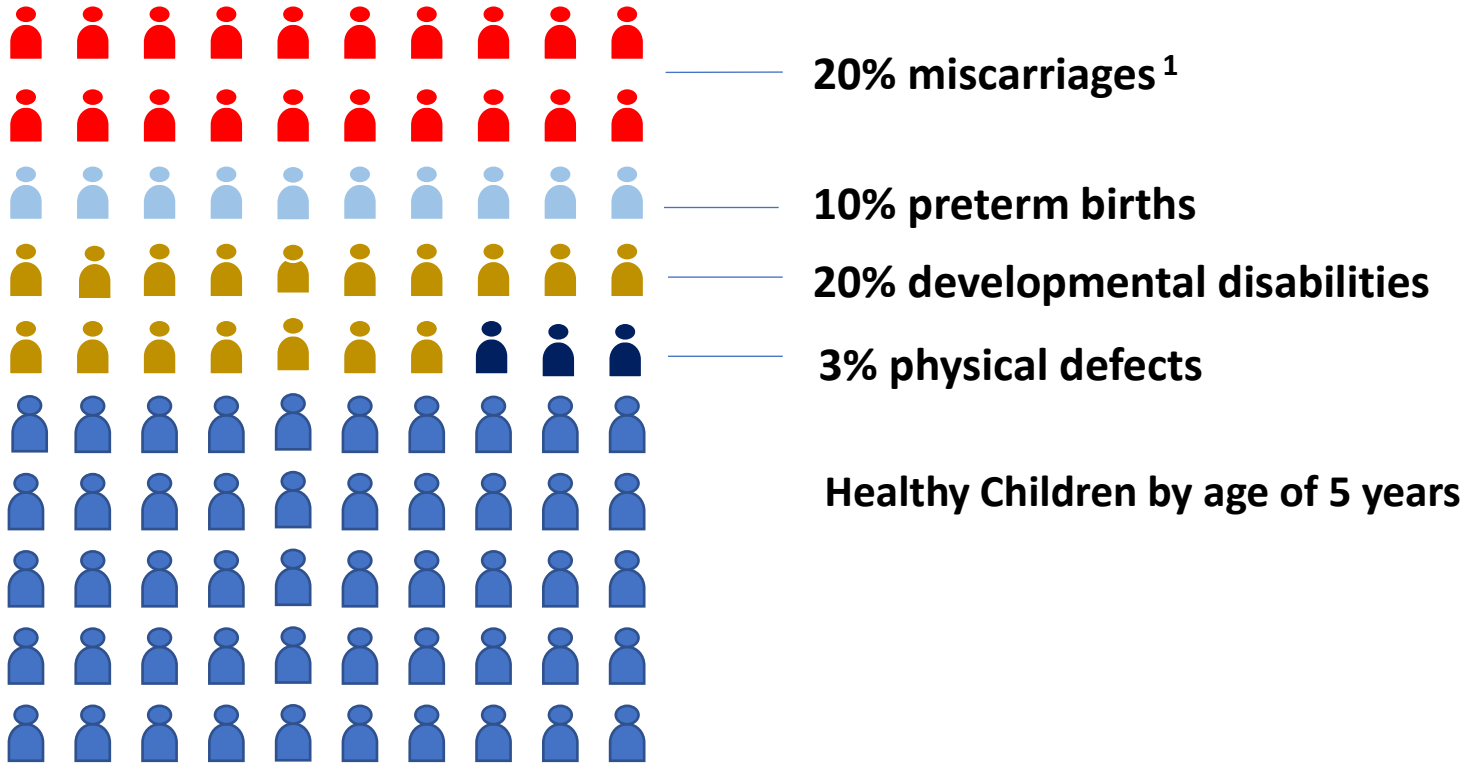
- **Critical Period:** The first 1300 days from preconception through infancy
- **Prevention Strategy:** Minimize toxics exposure during this crucial time frame
- **Reduction in Chronic Illness:** Preventive measures can cut the risk of chronic illness in children, from birth defects neurodevelopmental disorders and cancer
- **Fewer Pregnancy Complications:** Reductions in complications during pregnancy including miscarriages, preterm birth and low birth weight

Pregnancy Complications and Children's Chronic Conditions

- Consensus that environmental toxics are the primary cause of conditions listed on the chart
- Chronic Disease in children is an epidemic in United States and around the globe

Unsafe Pregnancies Unhealthy Children	Rates
Before Birth	
Miscarriage	30%
Preterm Birth	10%
After Birth	All Increasing
Autism	**1 in 40**
Asthma	1 in 8
Allergic Eczema	1 in 5
Serious Food Allergies	1 in 12
Celiac Disease	1 in 80
ADHD	1 in 6
Dyspraxia	1 in 10
Bipolar Disorders	1 in 30
Childhood Obesity	1 in 5
Cancers 2nd leading cause of death in children	Up 1% a year

Current pregnancy and infancy care models have produced a 50% chance of experiencing poor pregnancy outcomes and unhealthy children



(1) "As many as 50% of pregnancies may end in miscarriage. We don't know the exact number because most happen before a woman knows she's pregnant." – March of Dimes

(2) NEED REFERENCE FOR THIS GRAPHIC

What do we do?

We know the problem AND we know the solutions…

PRECONCEPTION TO INFANCY: Innovation, Health, Empowerment

Vision

P2i has a vision that all women will minimize the impact of environmental exposures on their health and the health of their families.

Mission

P2i will bridge environment and health from preconception to infancy

PRECONCEPTION TO INFANCY: Innovation, Health, Empowerment

Our Core Values

- Women deserve respect, access to care and an ability to make decisions for themselves.
- We will make recommendations based on science, integrity and an understanding of the role of environmental risks and exposures on health.
- Education of health care providers and the public is integral to bringing about change, but collaboration with like-minded organizations must take place to change health care and environmental policy.
- The Precautionary Principle is a core tenet: When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.
- In this context the proponent of an activity, rather than the public, should bear the burden of proof. (Wingspread Conference 1978)

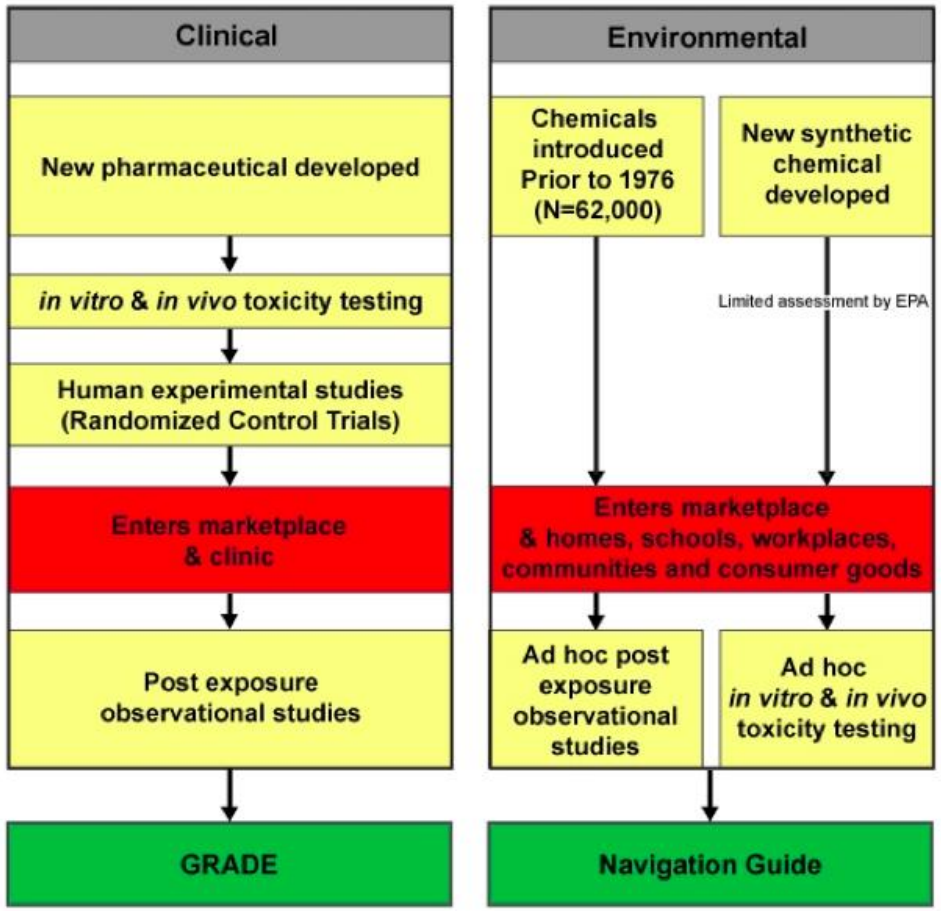
P2i GOALS

- ✓ Interpret and translate research to form the basis of all proposals, whether they invoke policy recommendations, consumer products, or education curricula
- ✓ Educate scientists, health providers and the public on the effect of environmental factors on reproductive health, preconception and pregnancy
- ✓ Advocate for changes in consumer products so that exposures to potentially toxic chemicals are minimized
- ✓ Create an effective certification process, based on P2i goals, that allows consumers and practitioners to determine which products provide the greatest safety
- ✓ Use technology to impact outcomes: leverage knowledge to improve awareness and understanding

Navigating the Science

Pharmaceuticals must show efficacy and safety ***prior to EXPOSING humans***

Figure 1. Streams of Evidence for Chemical Toxicity Assessment in Clinical and Environmental Health Sciences



Manufactured chemicals need to show evidence of harm ***prior to REMOVING human exposure***

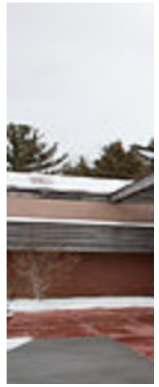
Woodruff TJ, Sutton P and the Navigation Guide Work Group. An Evidence-Based Medicine Methodology To Bridge The Gap Between Clinical And Environmental Health Sciences *Health Affairs*, 30, no.5 (2011):931-937

POLICY REFORM

SAFEGUARDS FOR HEALTH

"Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation" (UNEP 1992).

https://ec.europa.eu/environment/integration/research/newsalert/pdf/precautionary_principle_decision_making_under_uncertainty_FB18_en.pdf



Medical Organizations that Support the Goals of P2i

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

COMMITTEE OPINION

Number 575 • October 2013 *Reaffirmed 2016*

The American College of Obstetricians and Gynecologists Committee on Health Care for Underserved Women

American Society for Reproductive Medicine Practice Committee

The University of California, San Francisco Program on Reproductive Health and the Environment

This Committee Opinion was developed by the American College of Obstetricians and Gynecologists Committee on Health Care for Underserved Women and the American Society for Reproductive Medicine Practice Committee with the assistance of the University of California, San Francisco (UCSF) Program on Reproductive Health and the Environment. The Program on Reproductive Health and the Environment endorses this document. This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. This information should not be construed as dictating an exclusive course of treatment or procedure to be followed.

Exposure to Toxic Environmental Agents

ABSTRACT: Reducing exposure to toxic environmental agents is a critical area of intervention for obstetricians, gynecologists, and other reproductive health care professionals. Patient exposure to toxic environmental chemicals and other stressors is ubiquitous, and preconception and prenatal exposure to toxic environmental agents can have a profound and lasting effect on reproductive health across the life course. Prenatal exposure to certain chemicals has been documented to increase the risk of cancer in childhood; adult male exposure to pesticides is linked to altered semen quality, sterility, and prostate cancer; and postnatal exposure to some pesticides can interfere with all developmental stages of reproductive function in adult females, including puberty, menstruation and ovulation, fertility and fecundity, and menopause. Many environmental factors harmful to reproductive health disproportionately affect vulnerable and underserved populations, which leaves some populations, including underserved women, more vulnerable to adverse reproductive health effects than other populations. The evidence that links exposure to toxic environmental agents and adverse reproductive and developmental health outcomes is sufficiently robust, and the American College of Obstetricians and Gynecologists and the American Society for Reproductive Medicine join leading scientists and other clinical practitioners in calling for timely action to identify and reduce exposure to toxic environmental agents while addressing the consequences of such exposure.

Reproductive Environmental Health

Robust scientific evidence has emerged over the past 15 years, demonstrating that preconception and prenatal exposure to toxic environmental agents can have a profound and lasting effect on reproductive health across the life course (1–3). Exposure to toxic environmental agents also is implicated in increases in adverse reproductive health outcomes that emerged since World War II; these changes have occurred at a rapid rate that cannot be explained by changes in genetics alone, which occur at a slower pace. For additional information, a detailed review is available at www.acog.org/goto/underserved.

Exposure to environmental chemicals and metals in air, water, soil, food, and consumer products is ubiquitous. An analysis of National Health and Nutrition Examination Survey data from 2003–2004 found that virtually every pregnant woman in the United States is exposed to at least 43 different chemicals (4). Chemicals in pregnant women can cross the placenta, and in some cases, such as with methyl mercury, can accumulate in the fetus, resulting in higher fetal exposure than maternal exposure (5–7). Prenatal exposure to environmental chemicals is linked to various adverse health consequences, and patient exposure at any point in time can lead to harmful reproductive health outcomes. For example, prenatal exposure to certain pesticides has been documented to increase the risk of cancer in childhood; adult male exposure to pesticides is linked to altered semen quality, sterility, and prostate cancer; and postnatal exposure to some pesticides can

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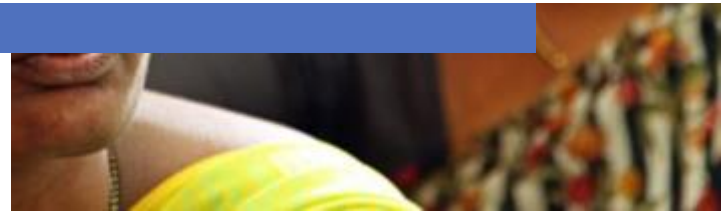
SPECIAL COMMUNICA

International Fe

INTERNATIONAL FEDERATION OF GYNECOLOGY & OBSTETRICS

Recommendations for Preventing Exposure to Toxic Chemicals

The air we breathe, th t—the products we use



P2i™ 4-Step Action Plan to change millions of lives

1. **Certified Product and Testing Initiative**

   Technology: Certify cutting-edge, cost-effective, CLIA-approved mass spectrometry for non-invasive testing and biomonitoring and Certification of Products free from Toxicity
   Purpose: Measure the body burden of toxics in pregnant women and their children and certify toxic-free prenatal supplements and baby foods

2. **Global Media Campaign**

   Objective: Achieve 50 million exposures, focusing on women of childbearing age
   Strategy: Launch a comprehensive media campaign to educate about the dangers of environmental toxics and the importance of proper nutrition for a healthy pregnancy and child development

3. **CME Courses for Healthcare Professionals**

   Development: Create an online Continuing Medical Education (CME) course tailored for healthcare professionals
   Focus: Emphasize the latest research and best practices in prenatal and infant health

4. **P2i Global Website**

   Features: Mobile-optimized, user-friendly platform providing essential resources for the P2i™ program
   Content: Offer daily training, implementation guidelines, and assessments of chemical and physical hazards in food, consumer products, water, and air

Media Campaign 50 million views

Strategies:

- **Digital Advertising: Leverage targeted ads on platforms such as Facebook, Instagram, and Google to reach the intended audience efficiently**
- **Influencer Partnerships: Collaborate with influencers in health, wellness, and parenting sectors to amplify message reach and credibility**
- **Content Marketing: Produce engaging content including articles, videos, and infographics that highlight key campaign messages, distributed across blogs and news sites**
- **Public Relations: Utilize press releases and media outreach to secure coverage in major publications and on health-focused TV and radio programs**
- **Community Outreach: Conduct webinars and live Q&A sessions with experts to directly engage with the audience and address their questions and concerns**
- **Metrics for Success: Track views, engagements, and conversions to assess and optimize the effectiveness of different channels and content types**
- **Doctor Referral – Official PR from all medical groups publicizing the program**

CME Courses for Healthcare Professionals

Course Objective:

- Educate healthcare providers on best practices for maternal and infant health from preconception through infancy
- Focus on nutritional guidance, toxic exposure reduction, and clinical testing

Target Audience:

- Obstetricians, Pediatricians, Family Physicians, Midwives, Nurse Practitioners, Physicinans Assistants and other allied health professionals.

Course Modules:

- **Module 1**: Importance of Preconception Health
- **Module 2**: Nutritional Strategies During Pregnancy
- **Module 3**: Identifying and Reducing Toxic Exposures
- **Module 4**: Infant Nutrition and Early Development

Teaching Methods:

- Interactive Lectures
- Case Studies and Real-World Scenarios
- Hands-On Workshops

Assessment and Certification:

- Pre and Post-Course Assessments to measure learning outcomes
- Certificates of Completion provided, contributing to CME credits

Faculty and Partners:

- Collaboration with universities and medical societies
- Expert faculty

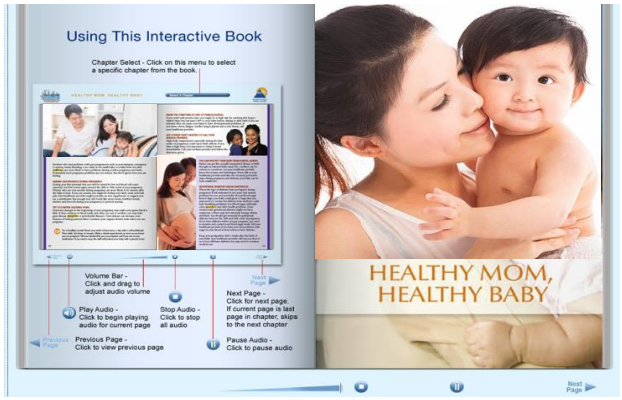
Implementation Timeline:

- Course development: 3 months
- Pilot session: 1-month post-development
- Full launch: 6 months from start

Expected Outcomes:

- Improved patient care standards in pre-pregnancy and infancy stages
- Broadened understanding of environmental impacts on maternal and infant health

P2i™ Global Website



Example of **Free** Women's Step by Step Program

Website Objective	Serve as a central hub for P2I compliance training, resources on toxicity, and certified products. Engage medical professionals and the public in proactive health management.
Key Features	**Referral System**: Enable doctors to refer patients directly to P2I resources and compliance training. **Information Hub**: Detailed sections on toxicity prevention, safe products (like prenatal vitamins, baby foods), and safe sleeping environments.
CME Courses	TED-Style Talks: Feature presentations by experts on topics related to preconception and infant health. **Interactive Forum**: Facilitate discussions between healthcare professionals, patients, and the public on P2I-related topics.
Easy Navigation	Responsive design for desktop and mobile users.
Outreach and Engagement	Monthly newsletters to update subscribers on new content and upcoming events. Social media integration for broader reach and engagement.
Sponsorship and Support	Highlight the doctor-run and sponsored nature of the website. Showcase logos of medical institutions and sponsors that support the initiative.
Expected Impact	Increase in patient referrals and compliance with P2I guidelines. Enhanced public understanding and engagement with prenatal and infant health issues.

P2i™ Certification Goals

Target Products:

- Prenatal supplements, baby food, sleeping environments
- Set strict limits for chemical pollutants and heavy metals

Innovative Body Burden and Heavy Metal Testing Solutions:

- Use of non-invasive mass spectrometry
- Chemical body burden and heavy metal detection

Key Benefits:

- Ensure product safety with rigorous testing
- Affordable, accessible clinical testing solution designed to help women identify harmful chemicals in their bodies before they can affect fetal development

AMA
AMERICAN MEDICAL ASSOCIATION

JAMA. 2013

"Chronic illnesses account for 84% of medical costs overall"

"Prevention requires tools that are often unfamiliar because educational, behavioral, and social interventions, not usually considered to be part of medicine, *may be most effective for many diseases"*

Important Statement from the American Medical Association that Prevention could be the most effective option for Chronic Disease

PRECONCEPTION TO INFANCY:

Innovation, Health, Empowerment