



Creare un nuovo paradigma di salute pubblica,
integrando l'impatto ambientale





Ferdinando Laghi, MD

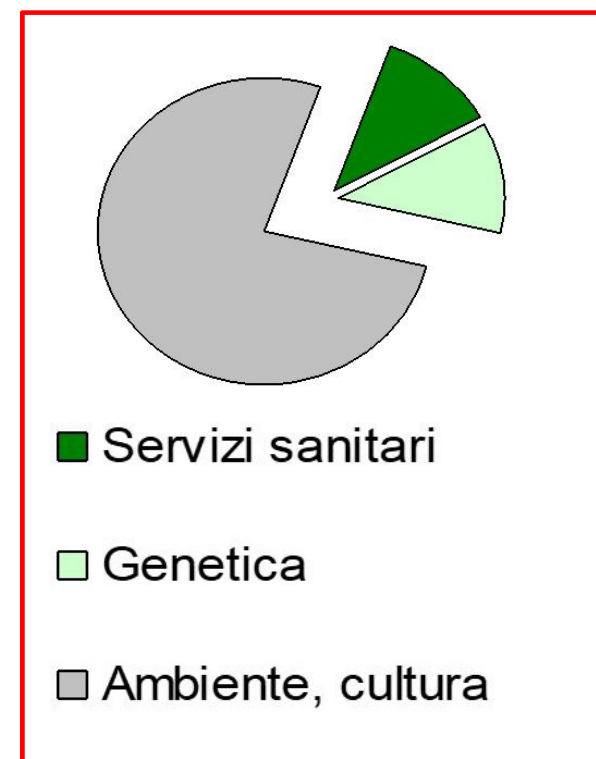
President

International Society of Doctors for the Environment (ISDE)

Webinar 12 dicembre 2020

I DETERMINANTI DI SALUTE

Individuali	Socio economici	Ambientali	Stile di vita	Accesso ai servizi
<ul style="list-style-type: none"> • Patrimonio genetico • Sesso • Età 	<ul style="list-style-type: none"> • Povertà • Occupazione • Esclusione • Ambiente socio-culturale 	<ul style="list-style-type: none"> • Clima Ozono, radiazioni ultraviolette • Luogo di vita Abitazione, trasporti, traffico, attività lavorative, rumore, radiazioni fisiche, Onde elettromagnetiche • Aria Biossido di azoto, particolato, anidride solforosa, Inquinanti organici, e inorganici,.... • Acqua e alimenti Metalli pesanti, pesticidi, disinfettanti, Inquinanti organici, Diossine,..... 	<ul style="list-style-type: none"> • Alimentazione • Attività fisica • Fumo • Alcool • Attività sessuale • Farmaci 	<ul style="list-style-type: none"> • Sistema scolastico • Sistema sanitario • Servizi sociali • Trasporti • Attività ricreative 



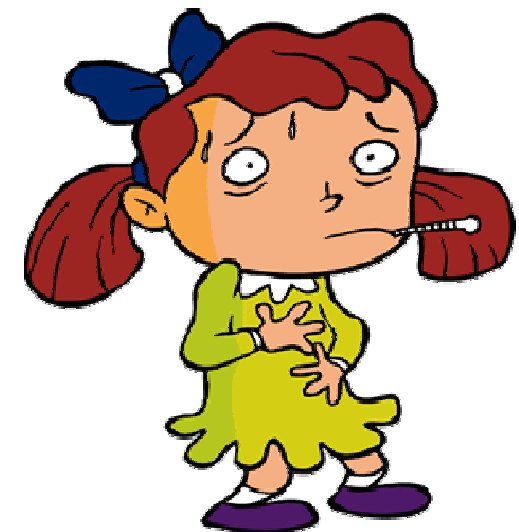
I determinanti della **salute** dipendono solo per il **10%** dai **servizi sanitari**, mentre per il **90%** dipendono dai fattori genetici, comportamentali, socio economici e ambientali.

IMPATTO DELL' AMBIENTE SULLA SALUTE



Si stima che nel mondo
il **23%** delle morti premature
possa essere attribuito a esposizioni ambientali...

...e che più del **26%** di quelle
dei bambini sotto i 5 anni sia dovuto a
esposizioni ambientali prevenibili



A Silent Pandemic

Industrial Chemicals Are Impairing The Brain Development of Children Worldwide

For immediate release: Tuesday, November 7, 2006



Il 17% dei bambini US di età inferiore a 18 anni ha un disturbo dello sviluppo, per lo più a carico del SN *

Disturbi dell'apprendimento

ADHD

Disordini dello spettro autistico

Ritardo mentale

Problemi comportamentali

* Le percentuali europee risultano analoghe



...e domani ?



ENDOCRINE DISRUPTORS
dioxin-like molecules

ULTRAFINE PARTICLES

HEAVY METALS

BodyBurden

The Pollution in Newborns

A benchmark investigation of industrial chemicals, pollutants, and pesticides in human umbilical cord blood

L'EPIGENETICA

e la Rivoluzione Epidemica del XX Secolo

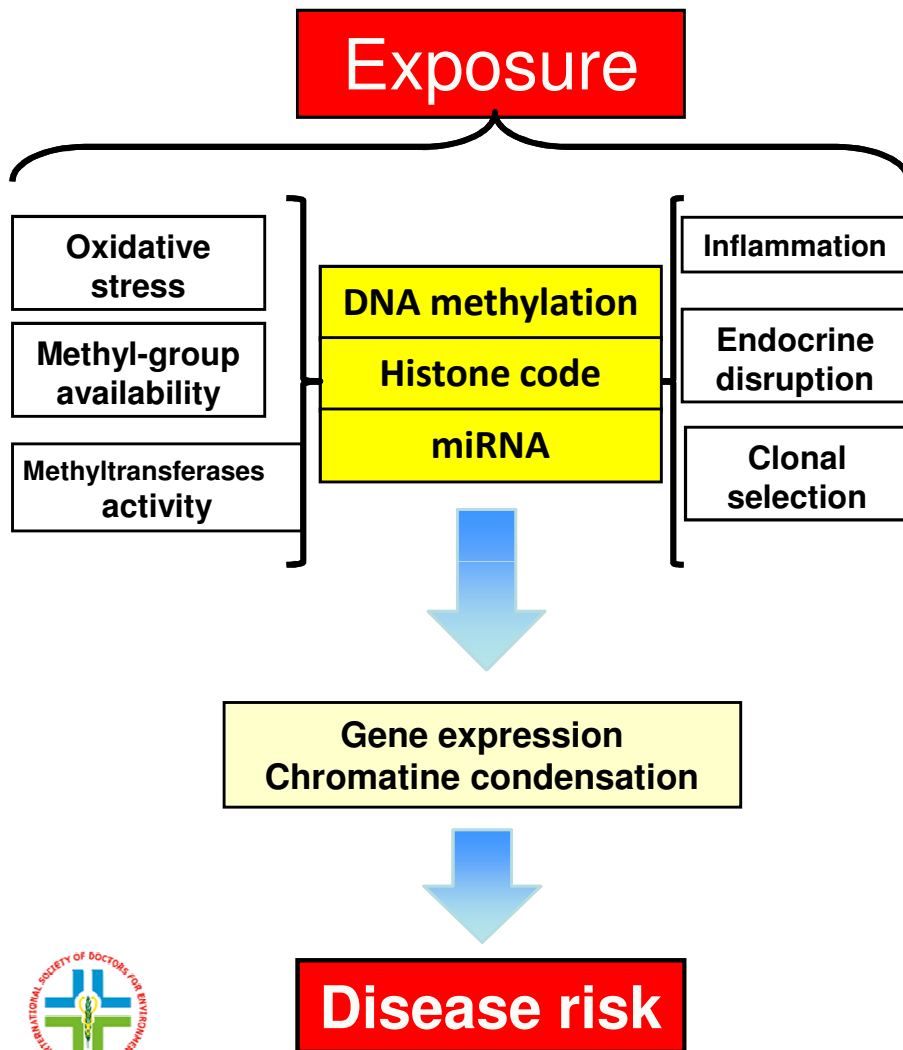
L'incremento delle patologie cronicodegenerative

(immunomediate, neuro-degenerative, endocrine, neoplastiche,

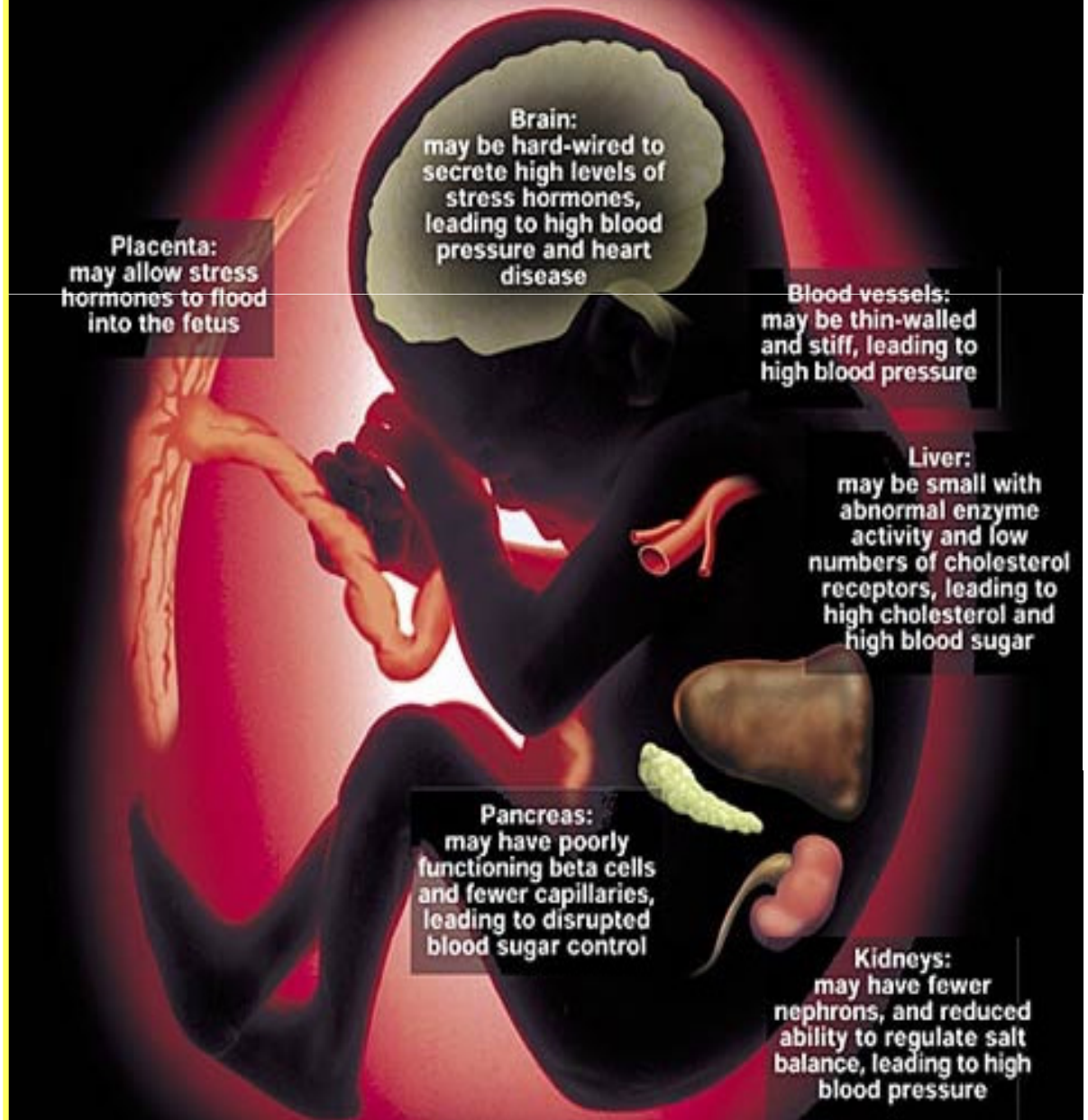
cardiocircolatorie) quale prodotto di una drammatica

trasformazione ambientale e di una (conseguente) alterazione del

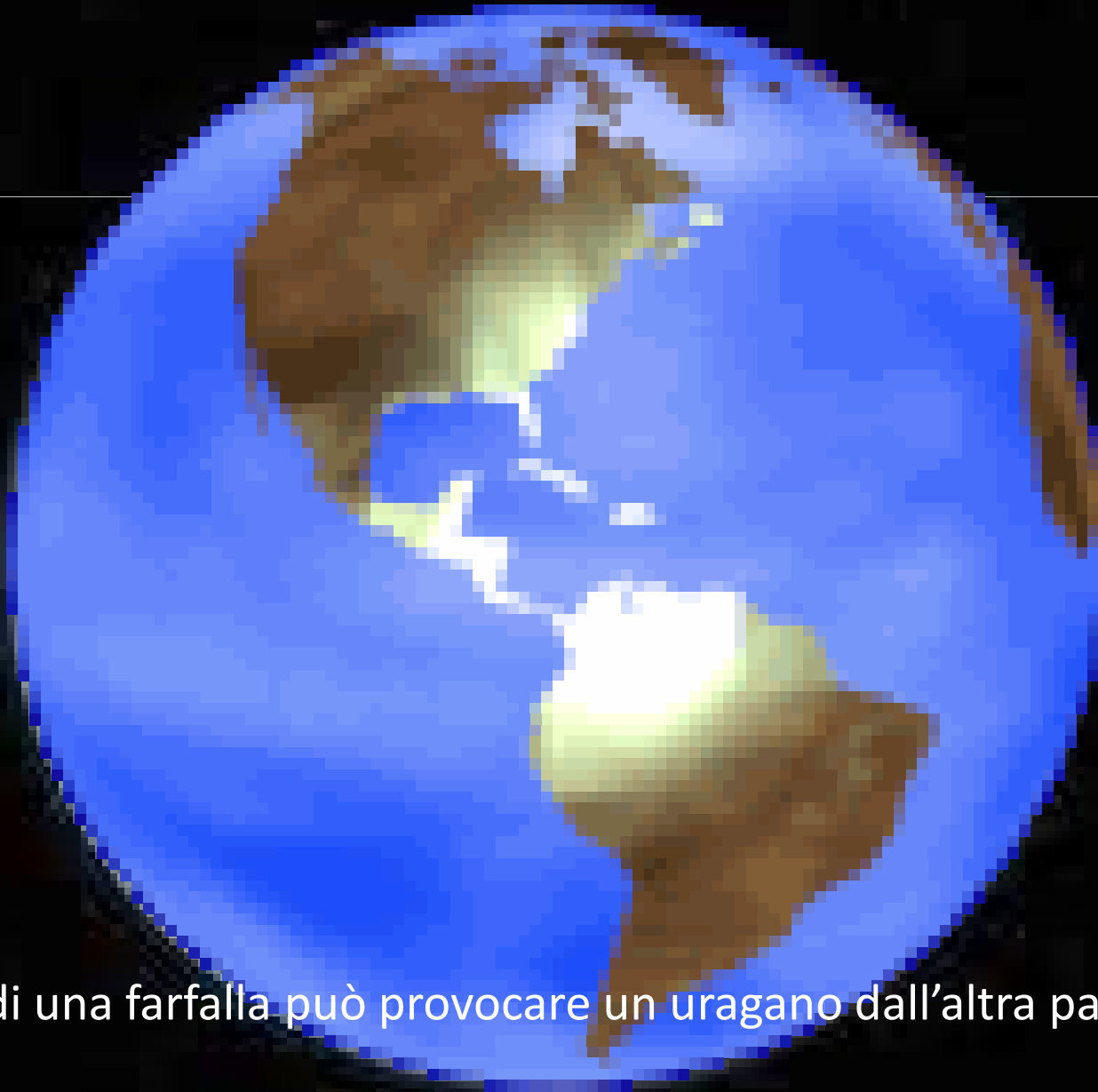
Programming embrio-fetale



If a pregnant woman is stressed or malnourished, the fetus' s development may be upset, increasing the chances of diabetes, heart disease and high blood pressure when the offspring reaches middle age



EARTH IS A CLOSED SYSTEM

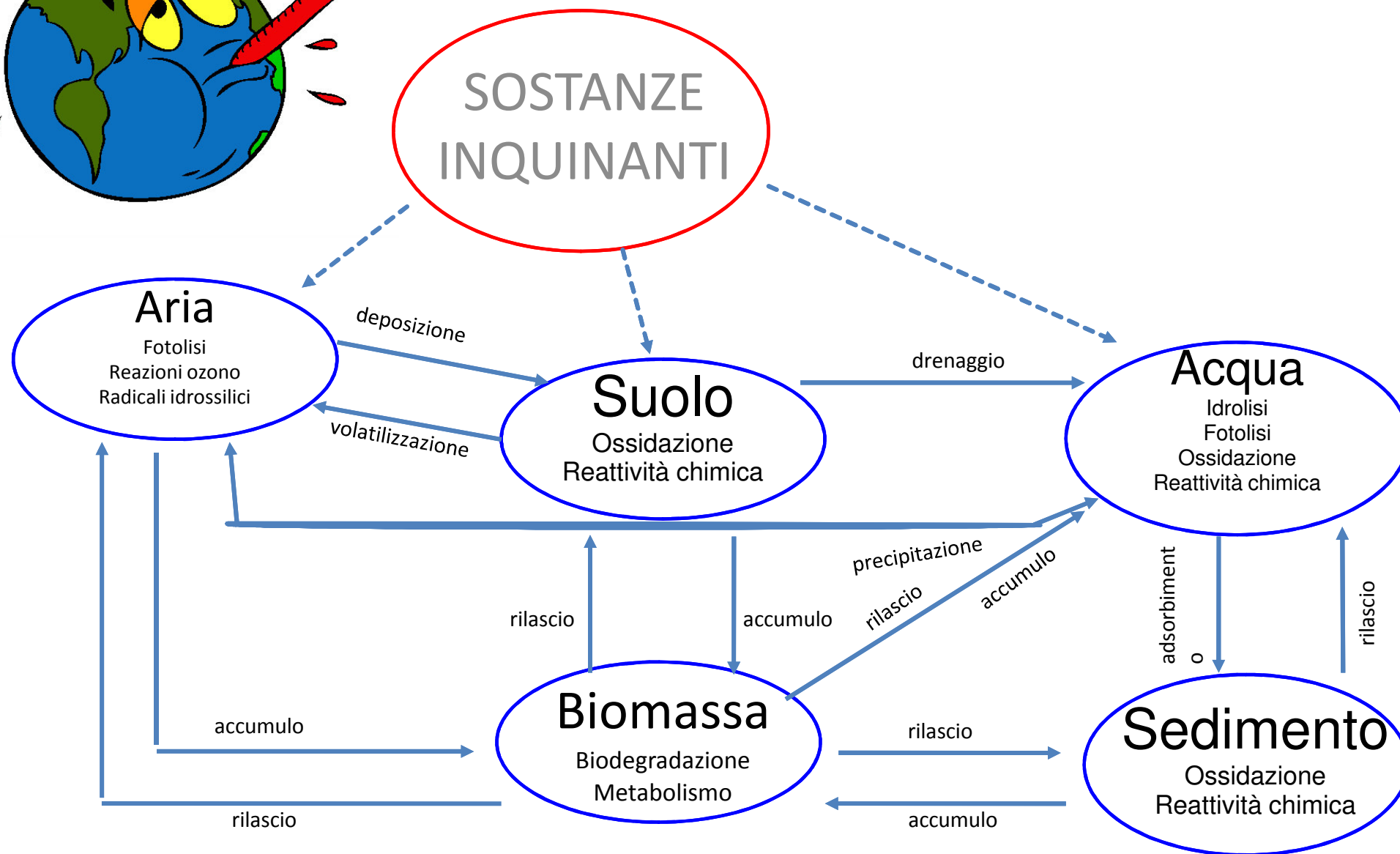


Il battito d'ali di una farfalla può provocare un uragano dall'altra parte del mondo



(Butterfly effect 2004)

DISTRIBUZIONE DELLE SOSTANZE NELL'AMBIENTE



Inquinamento atmosferico



LONDRA. Piccadilly Circus durante il Grande Smog del 1952 che uccise 12 mila persone in 5 giorni.

(Central Press/Hulton Archive/Getty Images)



FIRST WHO GLOBAL CONFERENCE ON AIR POLLUTION AND HEALTH

IMPROVING AIR QUALITY, COMBATting CLIMATE CHANGE – SAVING LIVES

30 October – 1 November 2018

WHO Headquarters, Geneva, Switzerland

- **91%** of the world population, including children, is exposed to air pollution at unacceptable levels.
 - Air pollution is estimated to cause **7 million deaths per year**.
 - The most **sensitive and vulnerable** in society are **most at risk**.
-

19/10/2017

The *Lancet* Commission on pollution and health

Diseases caused by pollution were responsible for an estimated 9 million premature deaths in 2015 —16% of all deaths worldwide— three times more deaths than from AIDS, tuberculosis, and malaria combined and 15 times more than from all wars and other forms of violence.



SPECIAL REPORT

Global Warming of 1.5 °C

An IPCC special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.



The Dicastery for Promoting Integral Human
Development

in cooperation with

The International Confederation of Catholic Health-Care Institutions
(CIISAC)



ORGANIZES

XXXII INTERNATIONAL CONFERENCE

Addressing Global Health Inequalities

16-17-18 November 2017
New Synod Hall - Vatican City



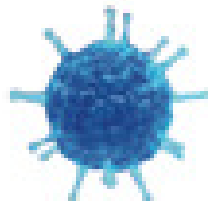
La tutela ambientale è strettamente collegata con la democrazia, l'equità sociale, e la difesa del diritto alla Salute.



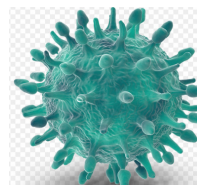
LA PANDEMIA DA NUOVO (?) CORONAVIRUS: NON E' LA PRIMA, NON SARA' L'ULTIMA...



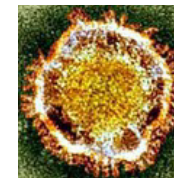
Ebola 1976



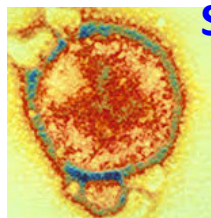
SARS 2002



**Suina H1N1
2009**



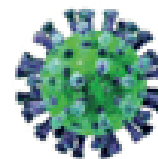
**Aviaria H7N9
2013**



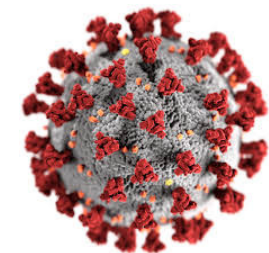
Hendra 1994



Aviaria H5N1 2003



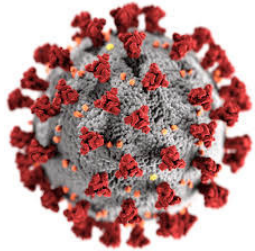
MERS 2012



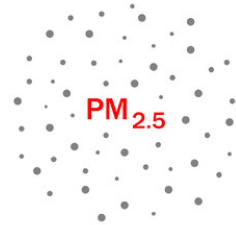
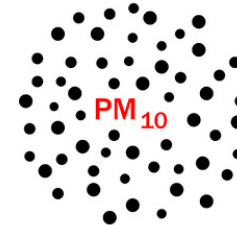
**SARS CoV2
2019**

....

COVID-19: dall'aggressione ambientale allo sviluppo nelle aree inquinate



SARS CoV2 e PM



Int J Environ Res Public Health. 2020 Jun; 17(12): 4487.
Published online 2020 Jun 22. doi: 10.3390/ijerph17124487

PMCID: PMC7345938
PMID: 32580440

Air Pollution and COVID-19: The Role of Particulate Matter in the Spread and Increase of COVID-19's Morbidity and Mortality

Silvia Comunian,¹ Dario Dongo,² Chiara Milani,^{3,4,*} and Paola Palestini^{3,4,5}



Contents lists available at ScienceDirect
Science of the Total Environment
journal homepage: www.elsevier.com/locate/scitotenv

Assessing the relationship between surface levels of PM2.5 and PM10 particulate matter impact on COVID-19 in Milan, Italy
Maria A. Zoran^{*}, Roxana S. Savastru, Dan M. Savastru, Marina N. Tautan
IT Department, National Institute of Research for Optoelectronics, Aachenla Str. 400, MCS, Magurele-Bucharest 077125, Romania



BMC Public Health. 2020 Oct 21;20(1):1585. doi: 10.1186/s12889-020-09669-3.

Airborne particulate matter, population mobility and COVID-19: a multi-city study in China

Bo Wang¹, Jiangtao Liu¹, Yanlin Li¹, Shihua Fu¹, Xiaocheng Xu¹, Lanyu Li¹, Ji Zhou², Xingrong Liu¹, Xiaotao He¹, Jun Yan³, Yanjun Shi⁴, Jingping Niu¹, Yong Yang⁵, Yiyao Li⁶, Bin Luo^{7,8,9}, Kai Zhang^{10,11}

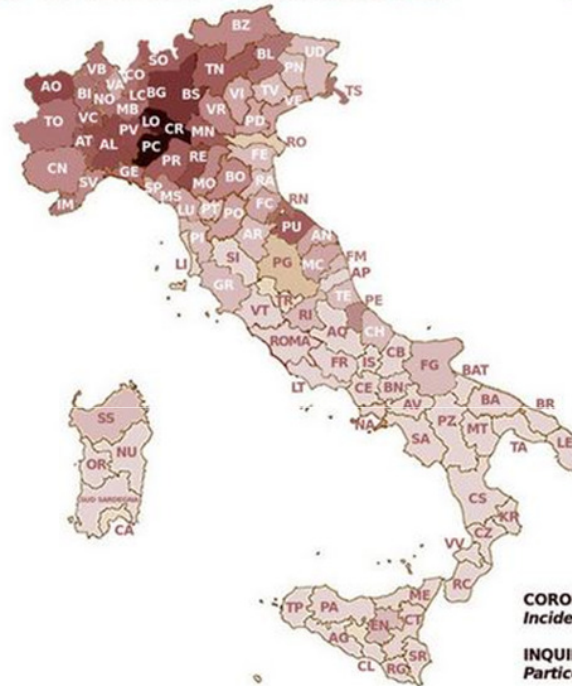


Air pollution and COVID-19 mortality in the United States: strengths and limitations of an ecological regression analysis

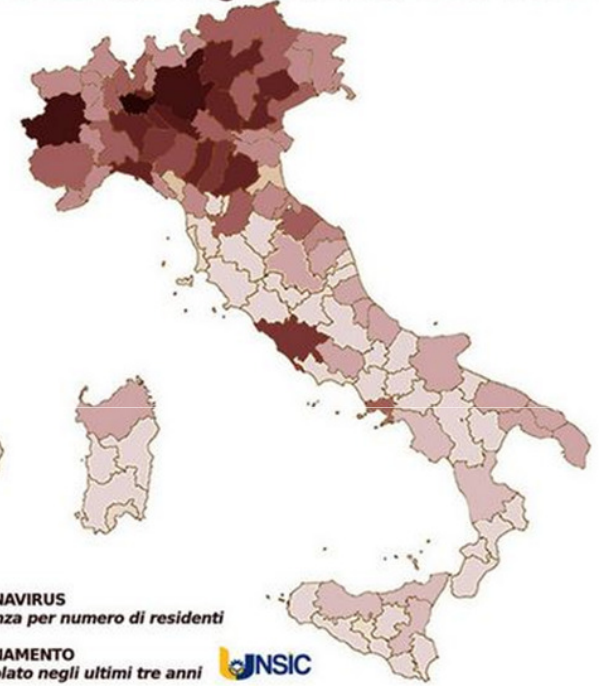
By using the contents on this website and the Github repo, you agree to cite:

Wu, X., Nethery, R. C., Sabath, M. B., Braun, D. and Dominici, F., 2020. Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis. *Science advances*, 6(45), p.eabd4049.

IL "PESO" DEL CORONAVIRUS



IL "PESO" DELL'INQUINAMENTO



CORONAVIRUS
Incidenza per numero di residenti

INQUINAMENTO
Particolato negli ultimi tre anni



International Journal of Infectious Diseases

Int J Infect Dis. 2020 Aug;97:278-282. doi: 10.1016/j.ijid.2020.05.076. Epub 2020 Jun 2.

Air pollution and temperature are associated with increased COVID-19 incidence: A time series study

He Li¹, Xiao-Long Xu², Da-Wei Dai³, Zhen-Yu Huang³, Zhuang Ma¹, Yan-Jun Guan⁴
Affiliations + expand
PMID: 32502664 PMCID: PMC7266595 DOI: 10.1016/j.ijid.2020.05.076

CHE FARE? DOVE INTERVENIRE ?

CITIES



Eighty percent of the world population is expected to live in cities by 2050. Consequently, city planning and urban development strategies are instrumental to balancing the supply of natural capital and population's demand.

ENERGY



Decarbonizing the economy is our best possible chance to address climate change, and would improve the balance between our Ecological Footprint and the planet's renewable natural resources.

FOOD



How we meet one of our most basic needs—food—is a powerful way to influence sustainability. Sourcing food locally and avoiding highly processed foods can lower the Ecological Footprint.

POPULATION



Being committed to everyone living secure lives in a world of finite resources requires addressing population growth. Empowering women is essential for global sustainability.

UN NUOVO PARADIGMA DI SALUTE PUBBLICA?

dalla (sola) cura della malattia al mantenimento della (buona) salute



Lorenzo Tomatis

Il principale approccio non può perciò che essere la

Prevenzione Primaria

cioè la riduzione dell'esposizione ai sempre più ubiquitari **patogeni ambientali**.

La vera PREVENZIONE è quella che rimuove le cause delle malattie.

”Tutti gli uomini sono responsabili dell'Ambiente. I Medici lo sono due volte.”

COMPOSIZIONE DELLA SPESA SANITARIA



Ospedaliera

45%



Distrettuale

55%



Prevenzione

5%



"Il diritto alla salute
è il diritto di vivere sani,
non quello di curarsi"

Vincenzo Migaleddu



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**Grazie per
l'attenzione**