



CDC's Environmental Public Health Priorities

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Director

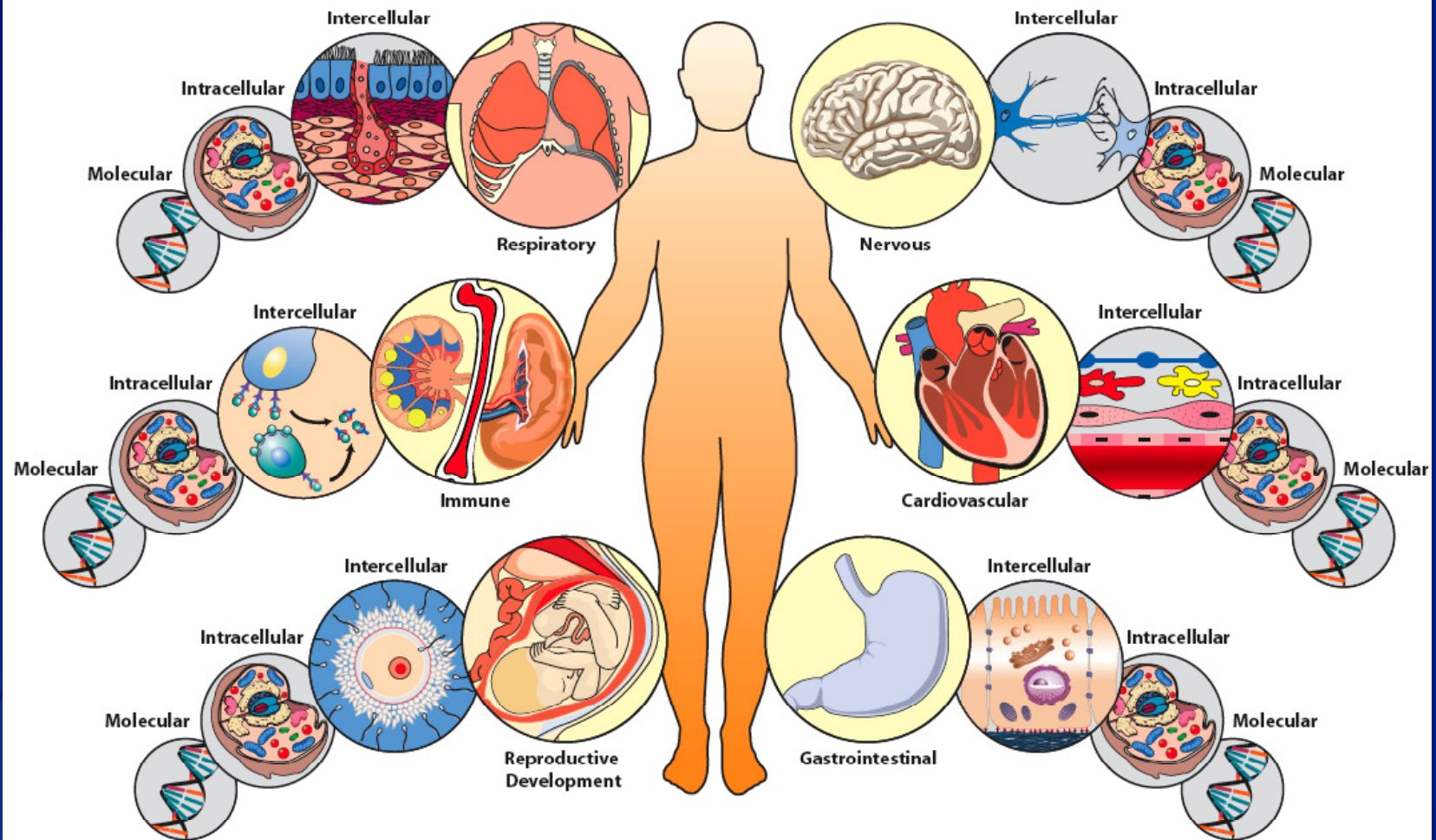
*National Center for Environmental Health
Agency for Toxic Substances and Disease Registry*

*State Environmental Health Directors Meeting
September 2010*

*National Center for Environmental Health
Agency for Toxic Substances and Disease Registry*

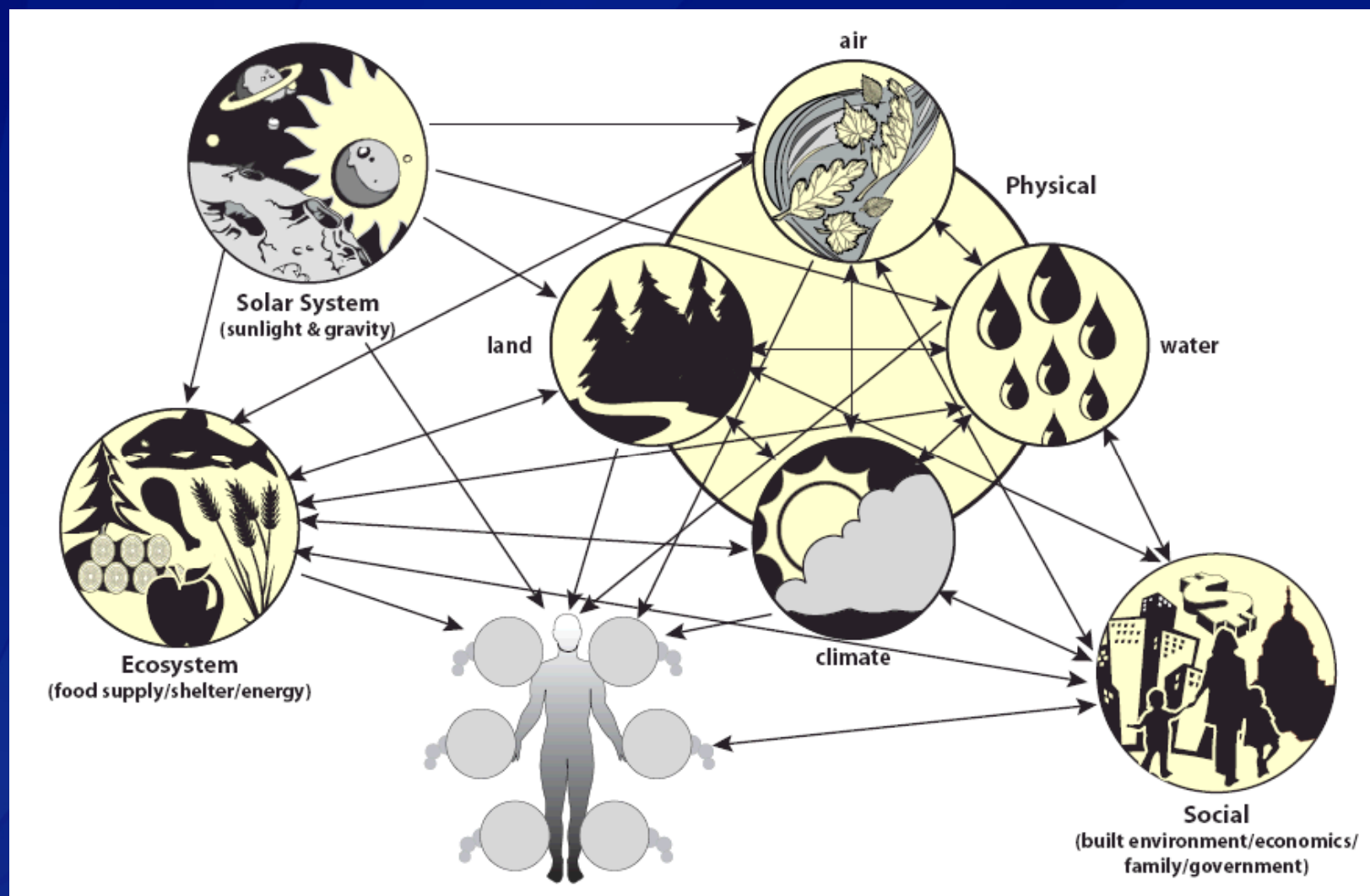


Human Systems



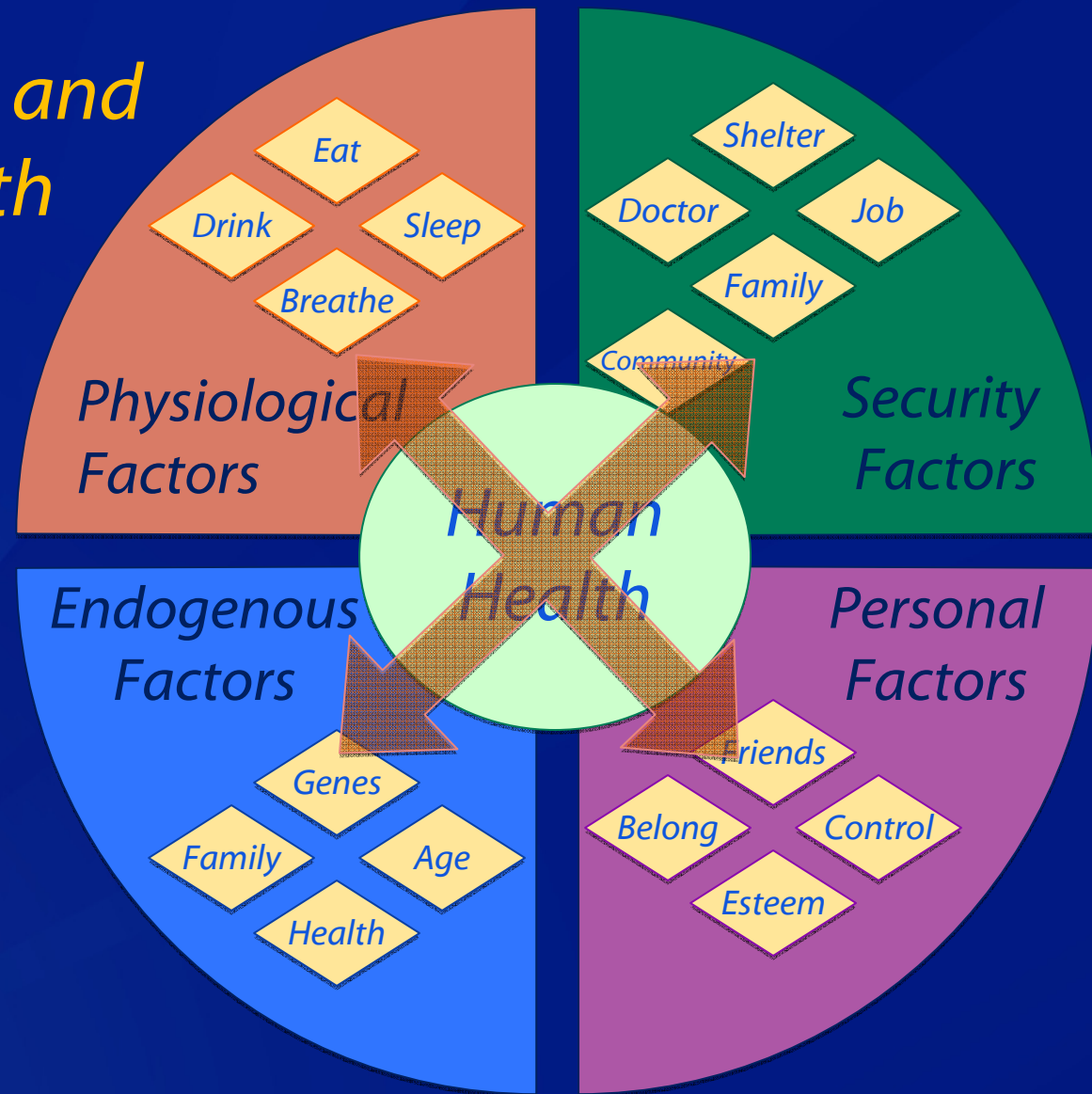
Gohlke and Portier (2006)

Our Environment and Our Health

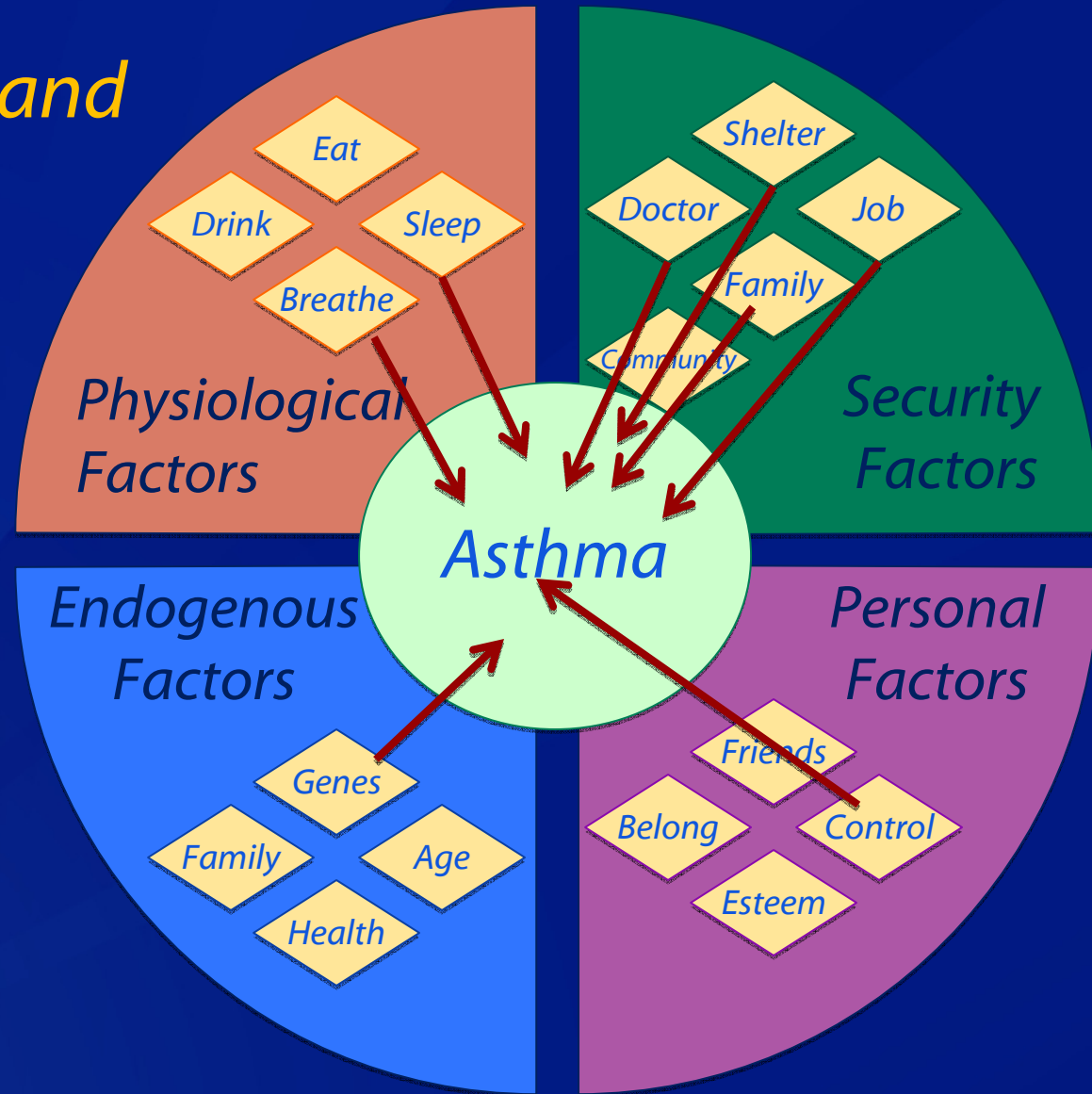


Gohlke and Portier (2007)

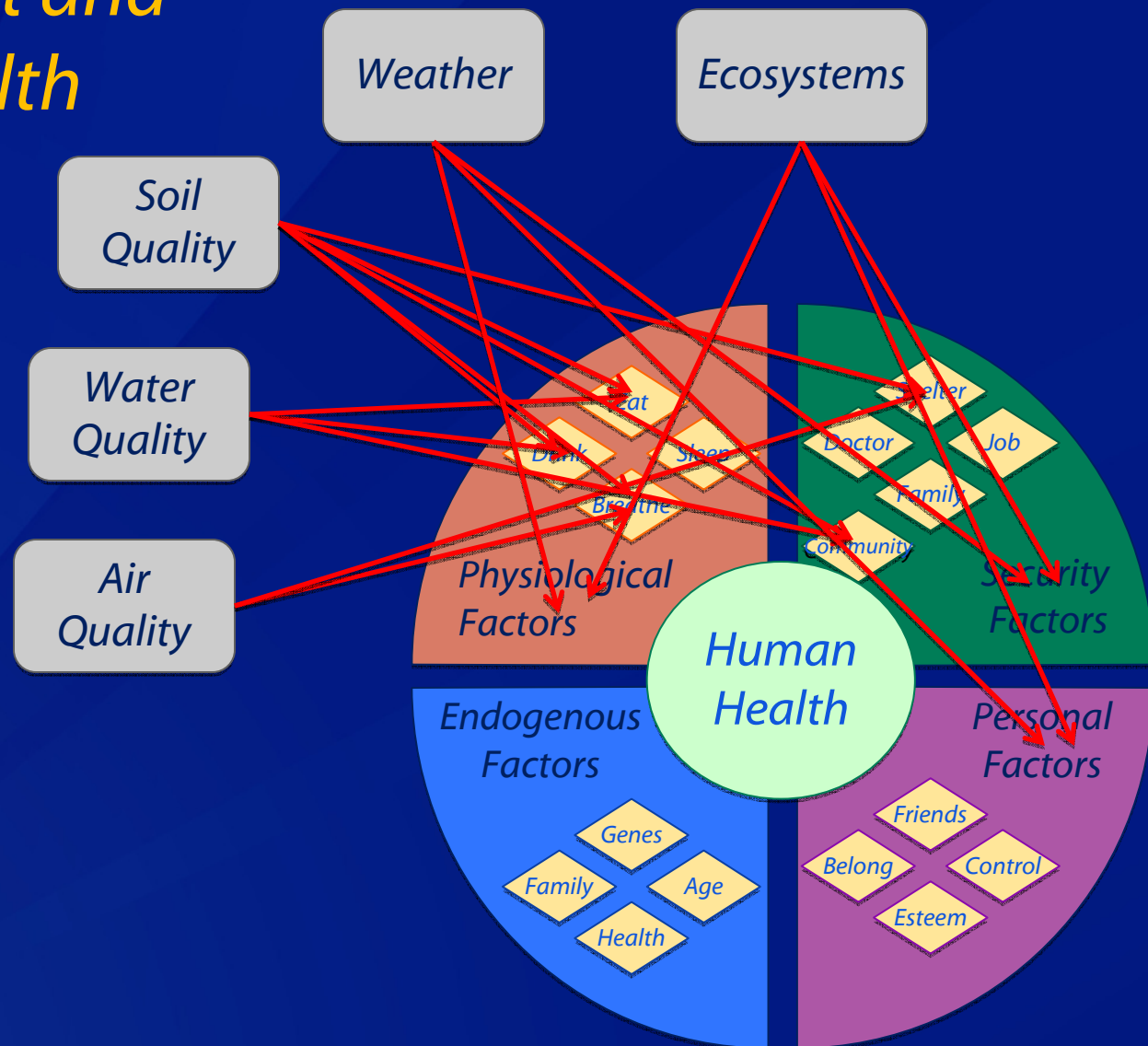
Environment and Human Health



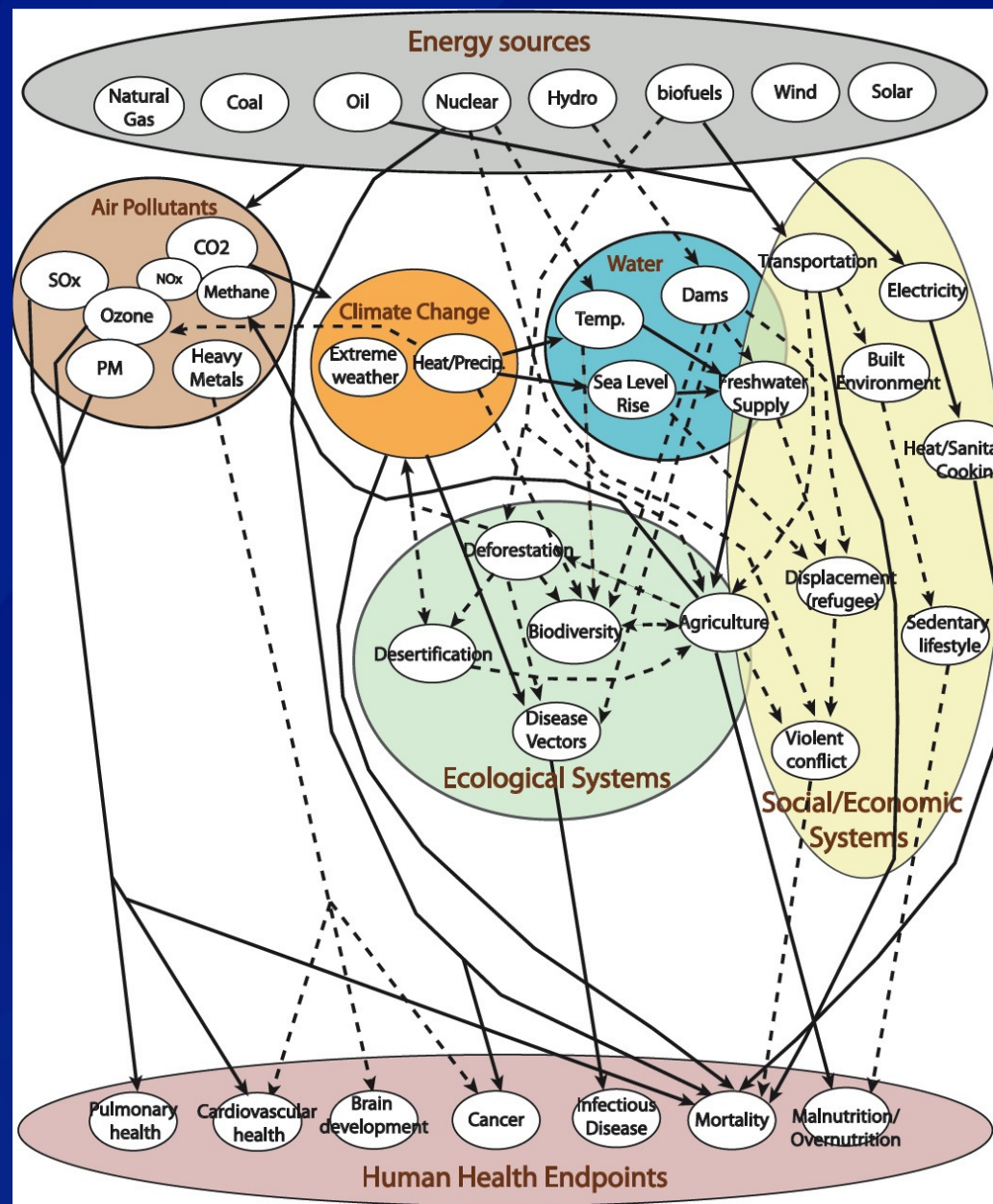
Environment and Disease



Environment and Human Health



Energy Policy and Human Health



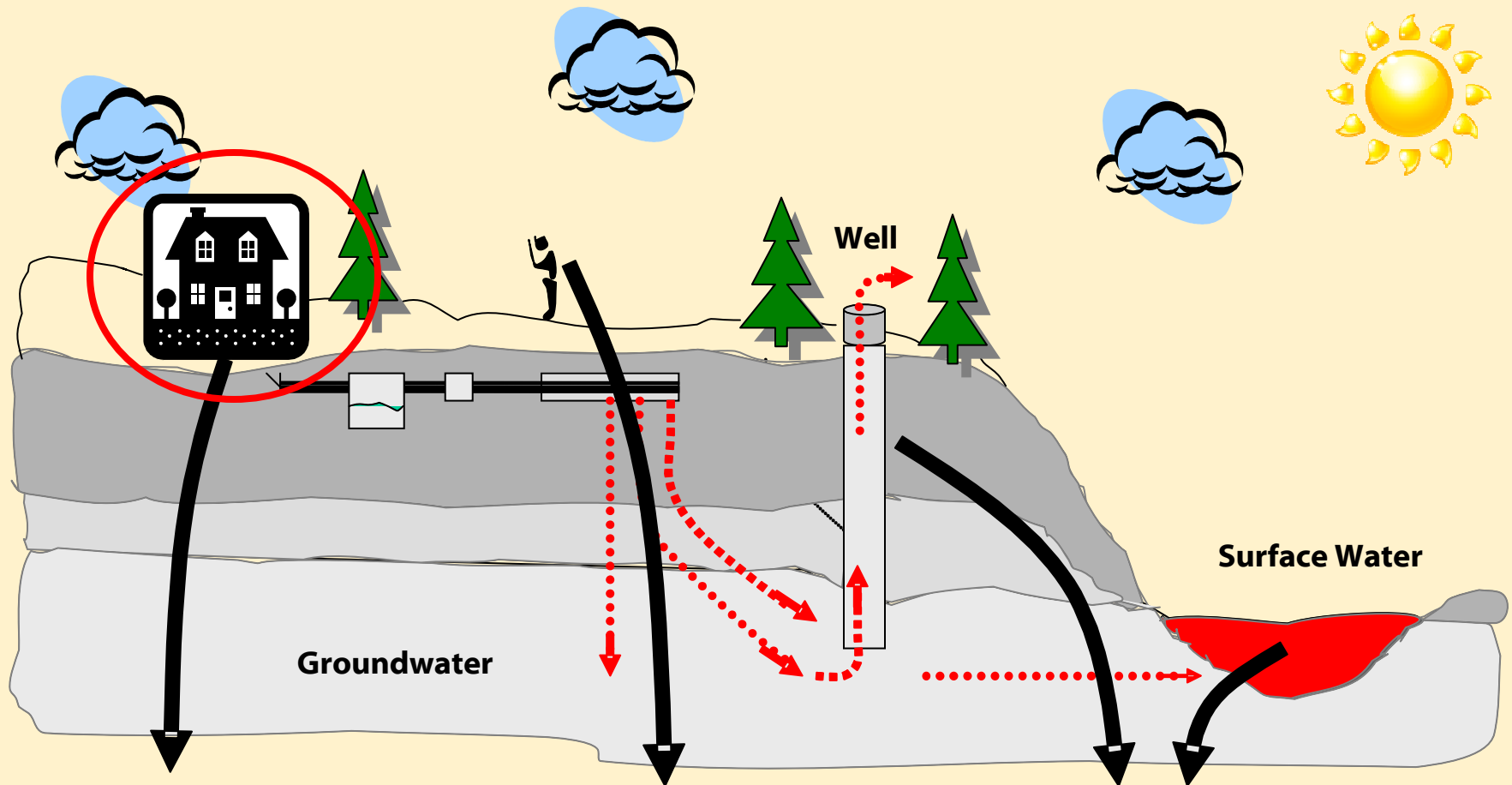
Gohlke, et al., 2008

Housing Conditions Have an Important Impact on Public Health



Most people spend an average of 50% or more of every day inside their homes

Healthy Community System



Household Level

- Healthy housing
- Onsite water/wastewater

Personal Level:

- Physical activity
- Mental health

Community/Environment Level

- Drinking water contamination
- Crumbling infrastructure

Community Design and Health

Related to land use

- ❑ **Obesity, physical activity, CVD**
- ❑ **Water quantity and quality**

**Related to
automobile
dependency**

- ❑ **Air pollution and asthma**
- ❑ **Climate change contribution**
- ❑ **↑ Car crashes**
- ❑ **↑ Pedestrian injuries**

**Related to social
processes**

- ❑ **Mental health impact**
- ❑ **↓ Social capital**

Transportation and Human Health

	Delhi			London		
	Lower-carbon-emission motor vehicles	Increased active travel	Towards sustainable transport	Lower-carbon-emission motor vehicles	Increased active travel	Towards sustainable transport
Physical activity						
Premature deaths	0	-352	-352	0	-528	-528
YLL	0	-6040	-6040	0	-5496	-5496
YLD	0	-816	-816	0	-2245	-2245
DALYs	0	-6857	-6857	0	-7742	-7742
Air pollution						
Premature deaths	-74	-99	-122	-17	-21	-33
YLL	-1696	-2240	-2749	-160	-200	-319
YLD	0	0	0	0	0	0
DALYs	-1696	-2240	-2749	-160	-200	-319
Road traffic crashes*						
Premature deaths	0	-67	-67	0	11	11
YLL	0	-2809	-2809	0	418	418
YLD	0	-730	-730	0	101	101
DALYs	0	-3540	-3540	0	519	519
Total†						
Premature deaths	-74	-511	-532	-17	-530	-541
YLL	-1696	-10 969	-11 448	-160	-5188	-5295
YLD	0	-1547	-1547	0	-2144	-2144
DALYs	-1696	-12 516	-12 995	-160	-7332	-7439

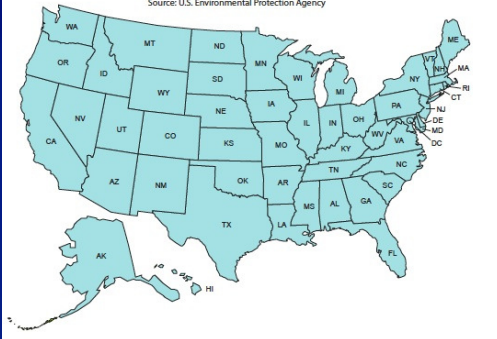
Negative numbers indicate reduction in disease burden. YLL=years of life lost. YLD=years of healthy life lost as a result of disability. DALYs=disability-adjusted life-years. *Injuries were calculated directly and then transformed into YLLs and YLDs rather than with a Comparative Risk Assessment approach. †Data were adjusted for double counting for the effect on cardiovascular disease.

Table 8: Health effects (per million population) in 1 year in Delhi, India, and London, UK, compared with business as usual

National Sources of Data

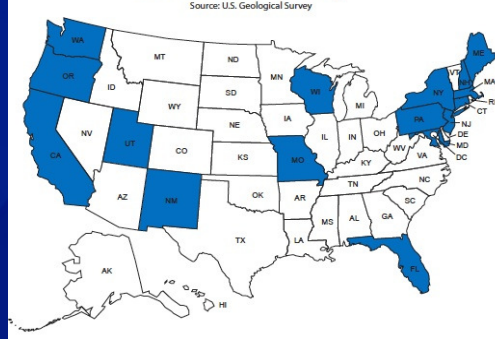
Air Quality Monitoring

PM_{2.5} and Ozone
Source: U.S. Environmental Protection Agency



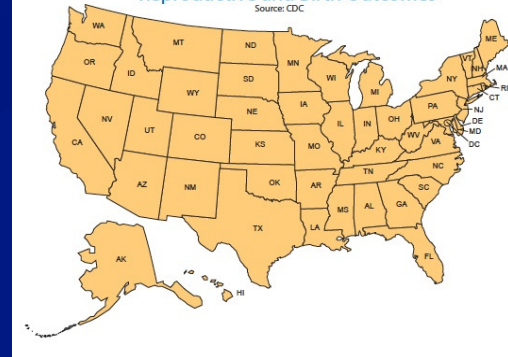
Well Water Monitoring

Source: U.S. Geological Survey



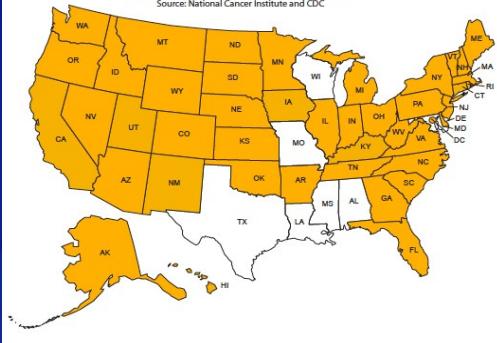
Reproductive and Birth Outcomes

Source: CDC



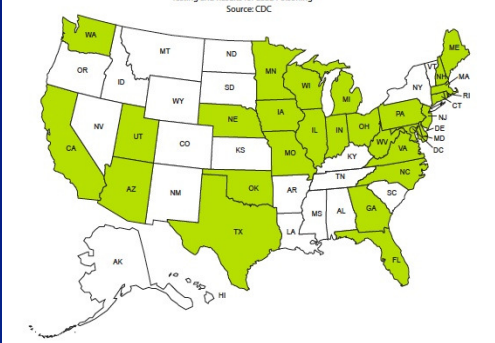
Rate of New Cancer Cases

Source: National Cancer Institute and CDC



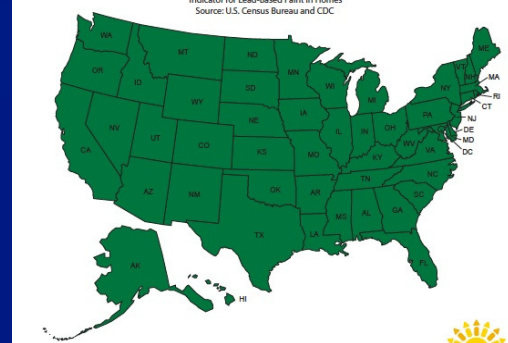
Childhood Lead Poisoning

Testing and Results for Lead Poisoning
Source: CDC

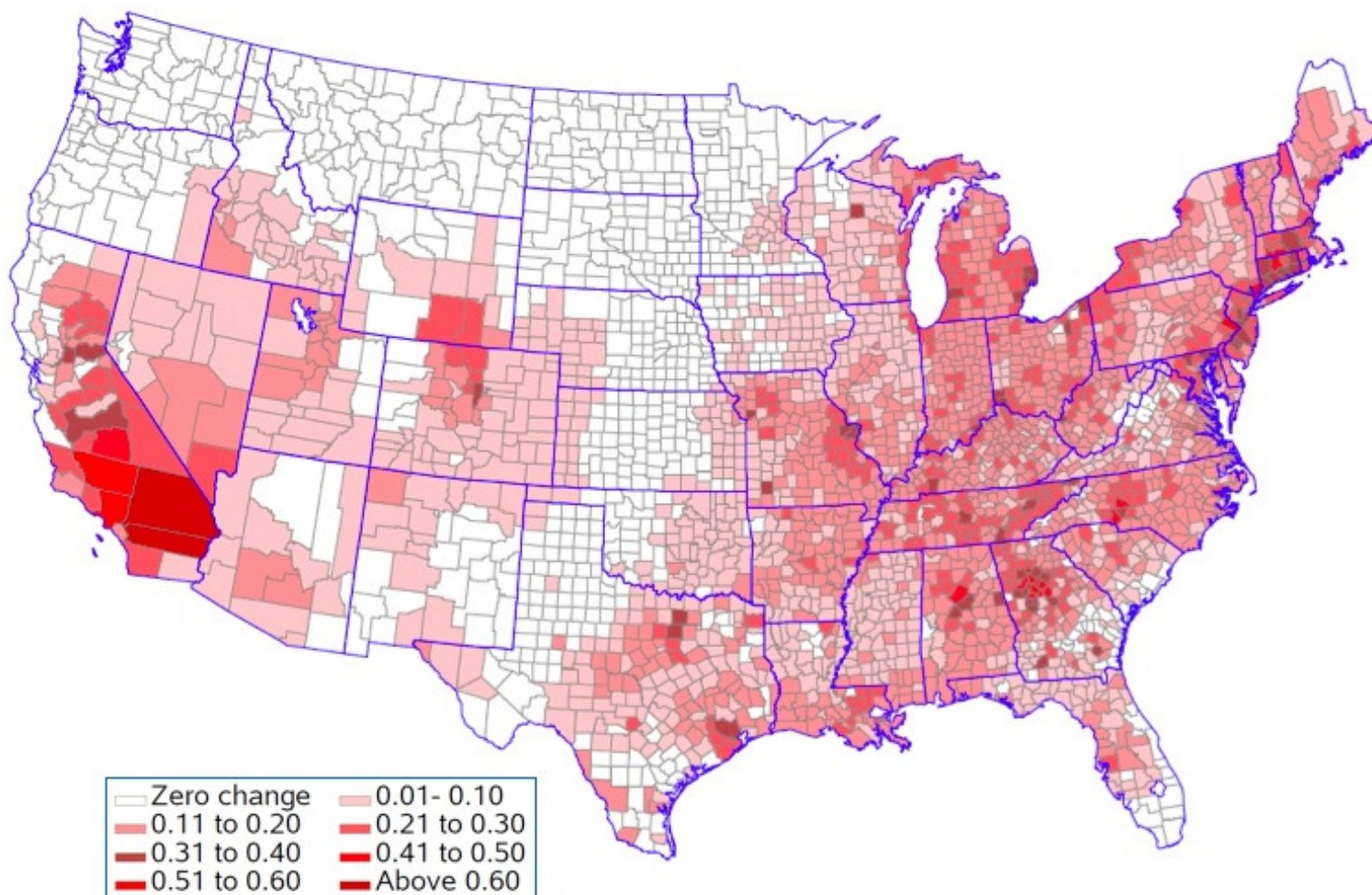


Age of Housing

Indicator for Lead-Based Paint in Homes
Source: U.S. Census Bureau and CDC



Improvement in Life Expectancy from Pollution Reduction



Community Design and Land-Use Choices Can Either Promote or Harm Human Health

- ❑ One tool: health impact assessments (HIAs)
- ❑ CDC is building capacity for HIA in land-use and transportation sectors



Environment and Health

Meeting Hierarchy of Human Needs



Questions?



For more information please contact Centers for Disease Control and Prevention

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

National Center for Environmental Health

Agency for Toxic Substances and Disease Registry

