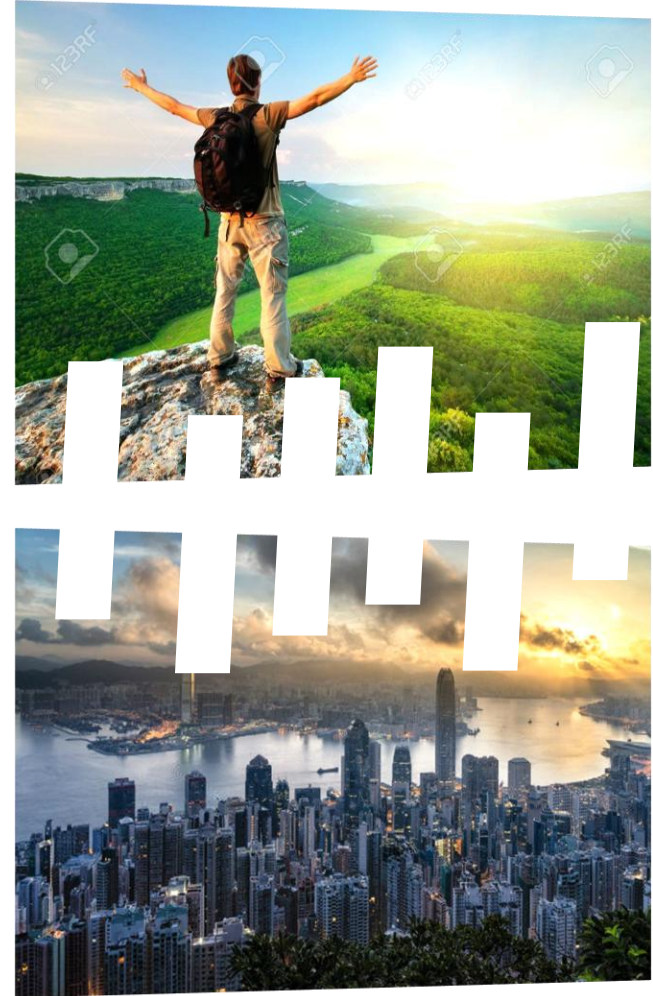


Environmental medicine

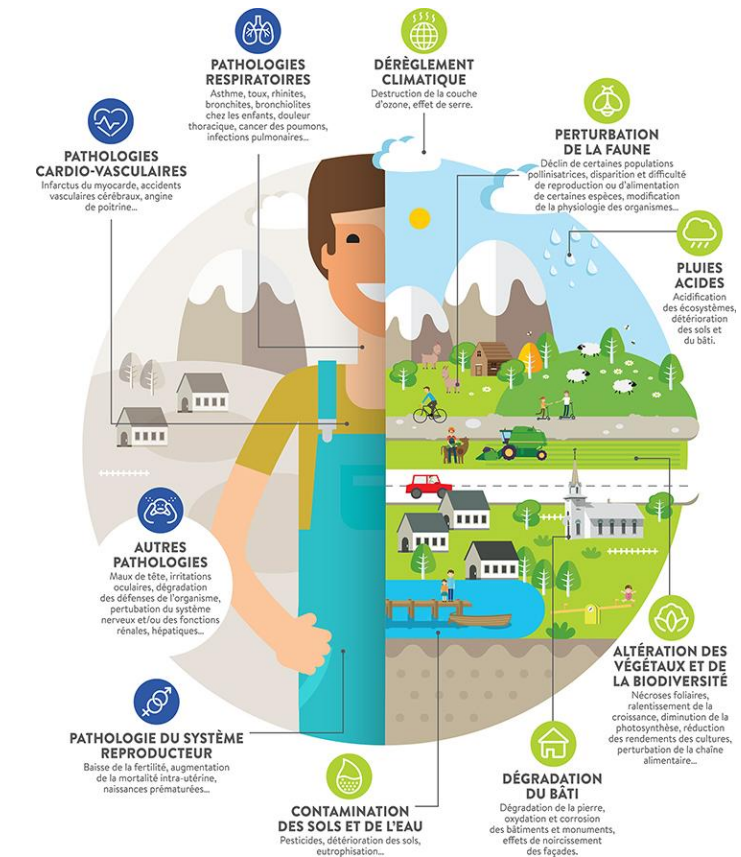
Lecture 7



Importance of environmental medicine in the prevention of chronic diseases



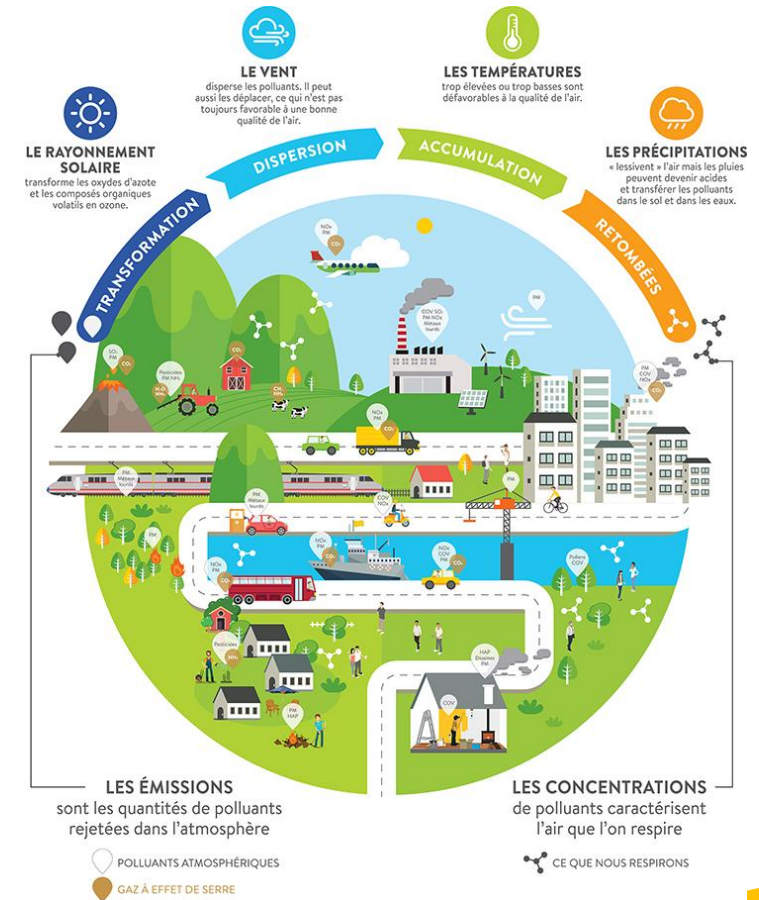
- Environmental medicine studies the impact of environmental factors (pollution, diet, lifestyle, toxic exposures) on human health.
- It plays a vital role in the prevention of chronic diseases such as cardiovascular disease, cancer, respiratory and metabolic diseases.

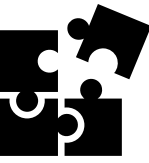


Importance of environmental medicine in the prevention of chronic diseases



- To build preventive approaches in the health-environment field, only a global and systematic approach to the health-environment interface can allow for the consideration of this complexity of links between close and distant determinants of health, and authorize a rigorous analysis of the very many uncertainties that remain.

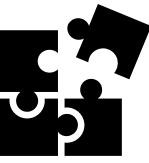




Environmental factors and chronic diseases

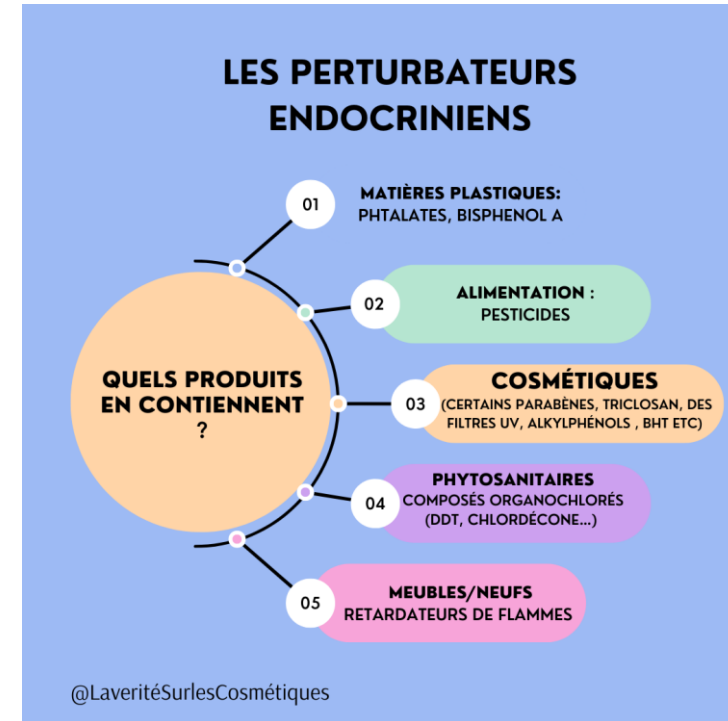
- **Air pollution:** Associated with lung diseases (asthma, COPD), strokes and cardiovascular diseases.

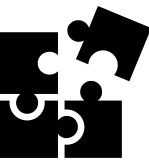




Environmental factors and chronic diseases

- **Chemicals and endocrine disruptors:**
Present in plastics, pesticides and cosmetics, they increase the risk of hormone-dependent cancers, obesity and neurological disorders.

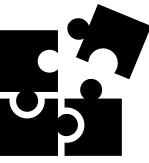




Environmental factors and chronic diseases

- **Food quality:** Food additives, pesticides and malnutrition promote diabetes, obesity and cardiovascular disease.





Environmental factors and chronic diseases

- **Exposure to heavy metals:** Lead, mercury and cadmium have neurotoxic and carcinogenic effects.

Sources d'exposition aux métaux lourds

Sources
environnementales

01

Exposition professionnelle

02

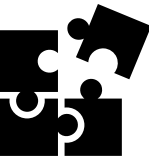
Produits de
consommation

03

Alimentation et eau

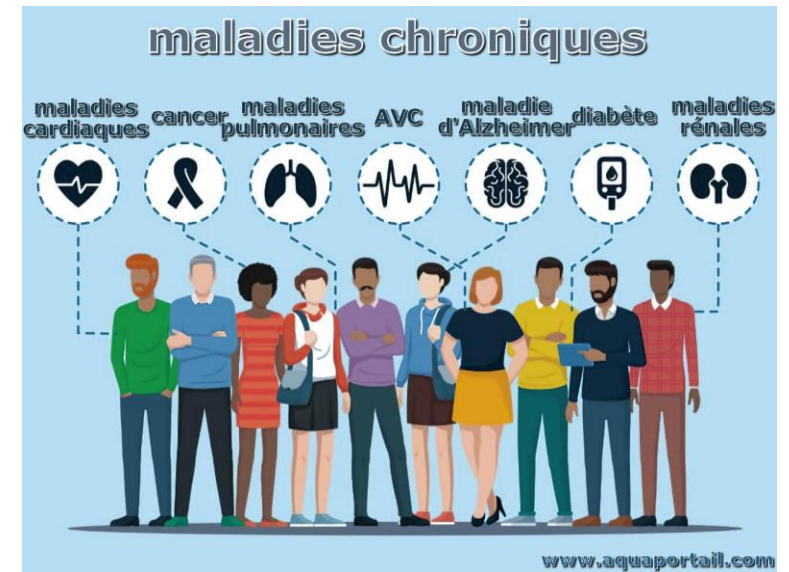
04

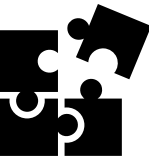
FasterCapital



Prevention strategies in environmental medicine

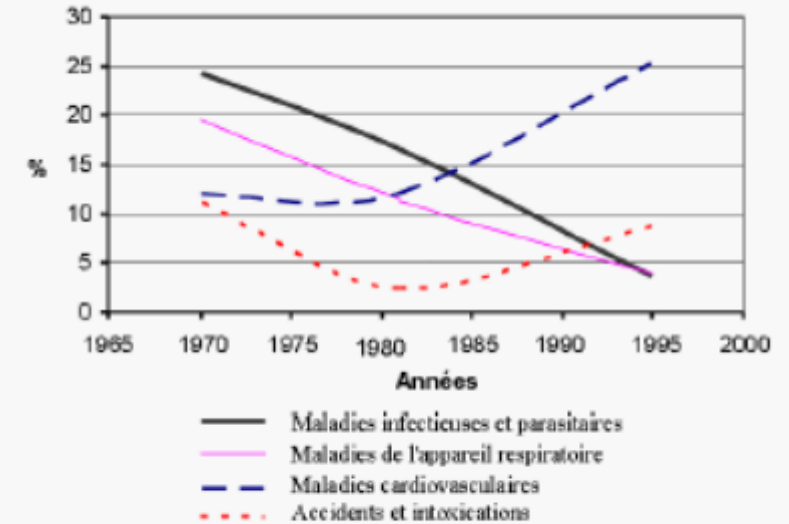
- Chronic diseases mainly include **cardiovascular diseases** (atherosclerosis, hypercholesterolemia, high blood pressure, coronary insufficiency, cerebrovascular insufficiency, respiratory insufficiency, arrhythmia), **cancers**, **diabetes** (type 1 and 2), **respiratory diseases** (chronic obstructive pulmonary disease, asthma), **neurodegenerative diseases** (Alzheimer's, Parkinson's, multiple sclerosis).



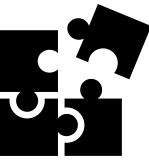


Prevention strategies in environmental medicine

- In just a century, the leading causes of death in the country have radically changed, moving from infectious diseases to chronic diseases: researchers define this major change as an "epidemiological transition" and mainly blame the environment.



Graphique 3: Evolution des principales causes de décès en milieu hospitalier en Algérie 1970-1995 (Ouchfoun et al 1998)

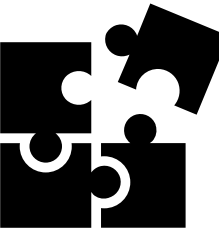


Prevention strategies in environmental medicine

- Several environmental factors such as diet, lifestyle, physical, biological, chemical, psychological, social and medical environment play a major role in the onset, development and worsening of chronic diseases.

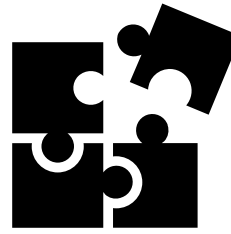


Risky behaviors:



- Sedentary lifestyles cause more than 3.2 million deaths worldwide each year. Lack of physical activity or inactivity doubles the risk of obesity, type 2 diabetes, and cardiovascular disease.

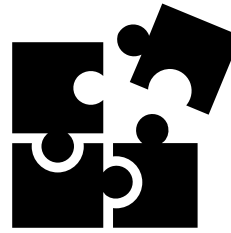




Risky behaviors:

- Poor diet plays a major role in the obesity epidemic. A diet too high in calories and fat is detrimental to health and increases the risk of type 2 diabetes, cancer, high cholesterol, atherosclerosis, and other cardiovascular diseases.
- According to the WHO, 1.7 million deaths worldwide are attributable to insufficient fruit and vegetable consumption.

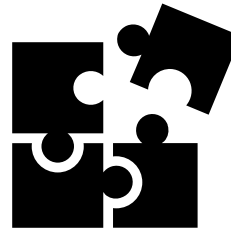




Risky behaviors:

- Obesity is a major risk factor for chronic diseases, including cardiovascular disease, diabetes, musculoskeletal disorders, and certain cancers. It results from a diet high in calories and fats combined with physical inactivity.
- 1.4 billion people aged 20 and over worldwide are overweight, including 500,000 million who are obese. In France, 15% of the population suffers from obesity.

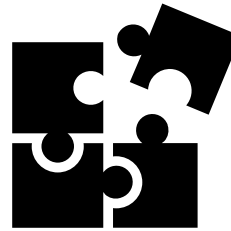




Risky behaviors:

- Pollution also plays a major role in the onset, development, and worsening of chronic diseases. 4
- While the effects of air pollution on respiratory diseases are widely recognized, 50% of the estimated 6.7 million deaths attributable to air pollution in 2019 were due to cardiovascular diseases.

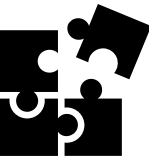




Risky behaviors:

- Globally, nearly 20% of deaths from cardiovascular disease were attributable to air pollution.
- Air pollution is ranked as the fourth leading risk factor for mortality, with more deaths attributable to it than high cholesterol, obesity, a sedentary lifestyle, or alcohol consumption.

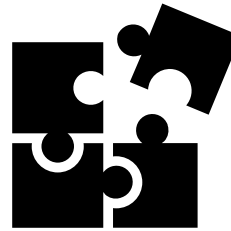




Prevention strategies in environmental medicine

- Thus, regular smoking, excessive alcohol consumption, a diet high in calories and bad fats, lack of physical activity, a sedentary lifestyle and obesity considerably increase the risks of chronic diseases, in particular cardiovascular and respiratory diseases, cancers and diabetes.





Risky behaviors: tobacco, alcohol, drugs

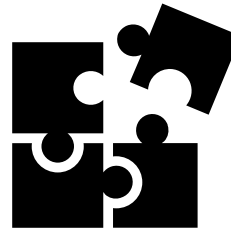
1. Tobacco

A major factor in cancers (lung, bladder, throat), cardiovascular, and respiratory diseases.

Contains toxic substances, including heavy metals and polycyclic aromatic hydrocarbons.

Prevention: anti-smoking policies, taxation, awareness raising, and smoking cessation.



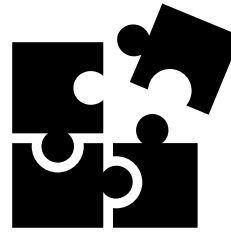


Tobacco

- Smoking is the leading cause of preventable death in France.
- Globally, tobacco kills 6.6 million people each year, including 6 million from active smoking and 600,000 from passive smoking.



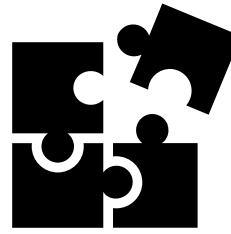
Alcohol



- Increases the risk of cirrhosis, digestive cancers, cardiovascular and neurological diseases.
- Toxic effects on the liver and brain, risk of addiction.
- Prevention: reduce consumption, information campaigns, and therapeutic support.



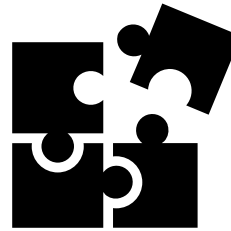
Alcohol



- Harmful alcohol use causes 49,000 deaths in France each year, making it the second leading cause of preventable death in the country.
- Over the long term, regular and excessive alcohol consumption promotes the onset and development of certain cancers, particularly those of the upper aerodigestive tract, digestive diseases (liver cirrhosis, pancreatitis), coronary heart disease, and stroke.



Drugs



- Neurological, psychological, and cardiovascular impacts depending on the type (cocaine, opiates, cannabis, synthetic drugs).
- Increased risk of accidents, infectious diseases (HIV, hepatitis), and mental disorders.
- Prevention: education, access to care, and addiction management

