



Drugs: The Public Health Perspective

Rodrigo Guerrero, M.D., Ms.Sc.Hy., Dr.Ph.

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Public Health

“The art and science
of preventing disease,
prolonging life
and promoting health
through the organized **efforts of society**”

Public Health

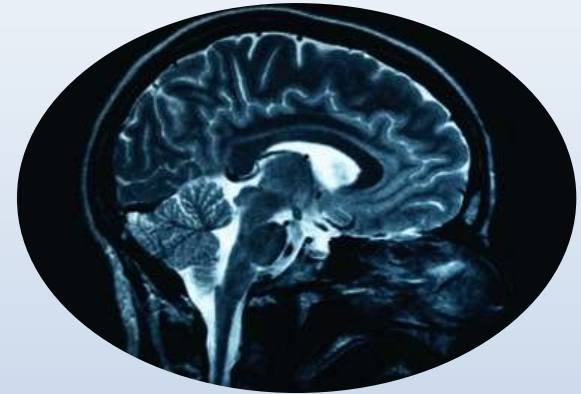
“The substantial problems
are not the substances
but the **people**”

Milton Romani



We are the mammal
with the most immature brain at birth

Human development is about brain development



- **100 million** neurons at birth
- **At age 3:** between 700 and 1.000 neural conexions per second
- **Unused** conexions are **lost**
- **UP TO 75%** of the fetus and infant's **energy consumption** is needed for the **development** of his/her **brain**

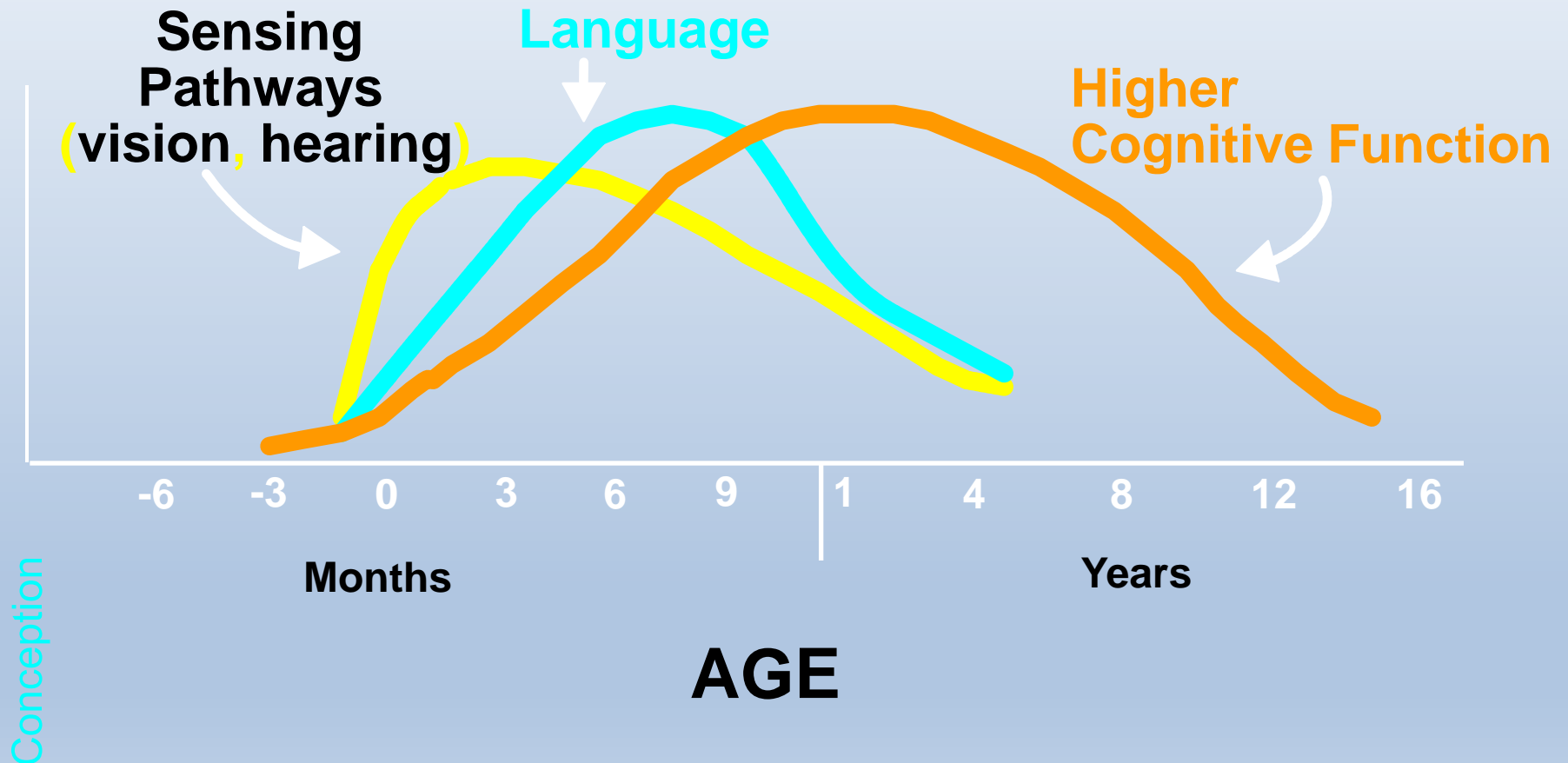
The



develops in social
& emotional eco-systems



Human Brain Development – Language and Cognition



Sigmund Freud



We must recollect that all of our provisional ideas in psychology will presumably one day be based on an organic structure



Toxic stress

- **Multiple, chronic** and **acute** experiences of violence, abuse, hunger and neglect
- High levels of **cortisol**
 - ✓ Disrupt brain development
 - ✓ Limit proliferation of brain cells
 - ✓ Damage health, learning

NORMAL

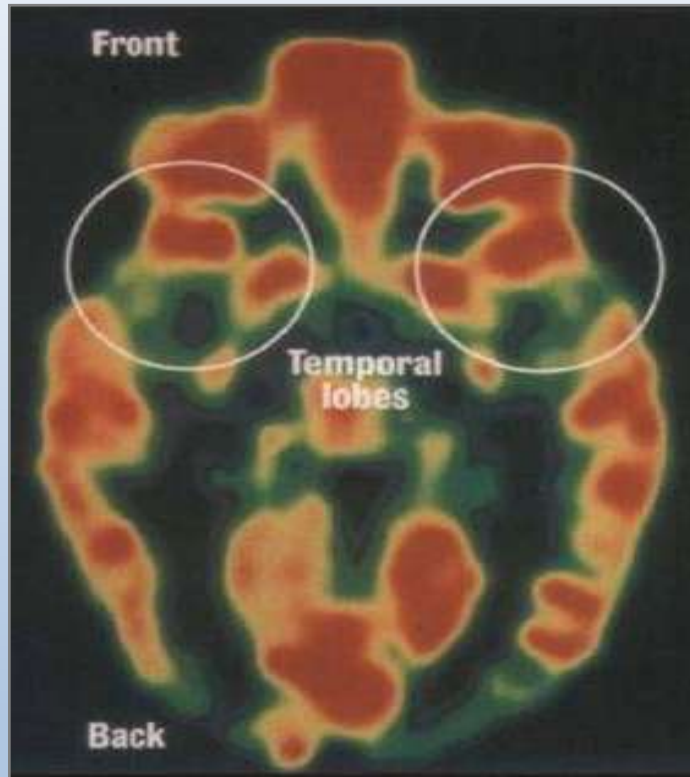


These are the brains of two three-year-old children. The image on the left is from a healthy child while the image on the right is from a Romanian orphan who suffered severe sensory deprivation. The right brain is smaller and has enlarged ventricles - holes in the centre of the brain. It also shows a shrunken cortex - the brain's outer layer.

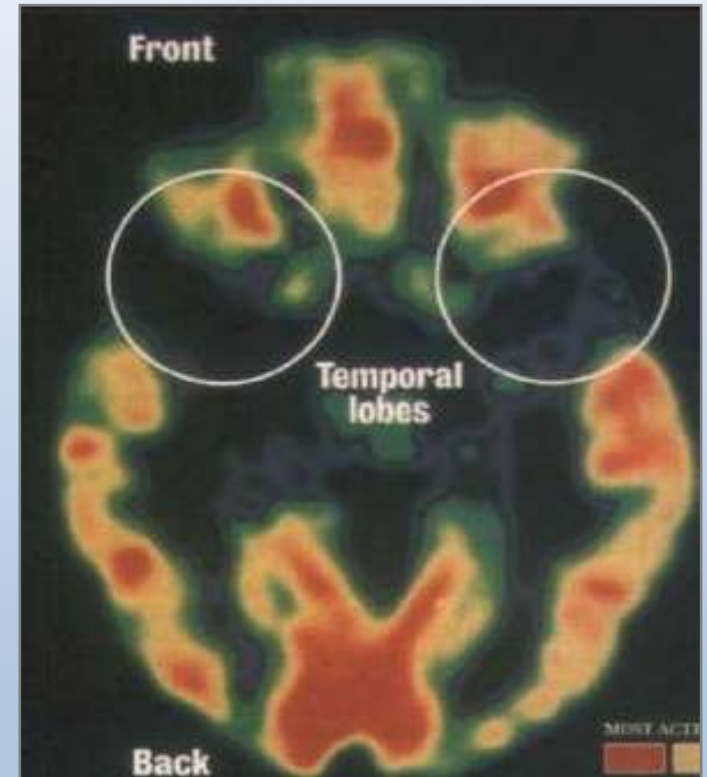
EXTREME NEGLECT



Stress Damages Brain Architecture



Healthy Brain



Abused Brain

Prefrontal cortex

Deliberate foresight

Concentration & attention

Social learning

Judgement

Self-restraint

Altruism & empathy

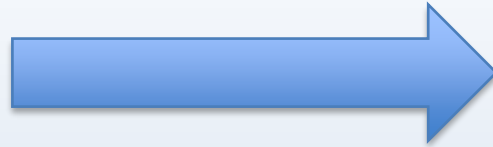
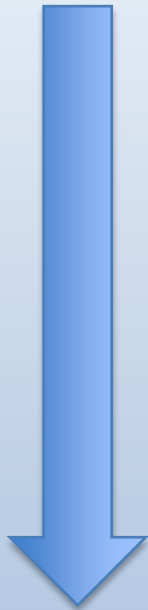
The good news

Permanent **is not** irreversible



The earlier, the better

Public Health



Primary prevention:

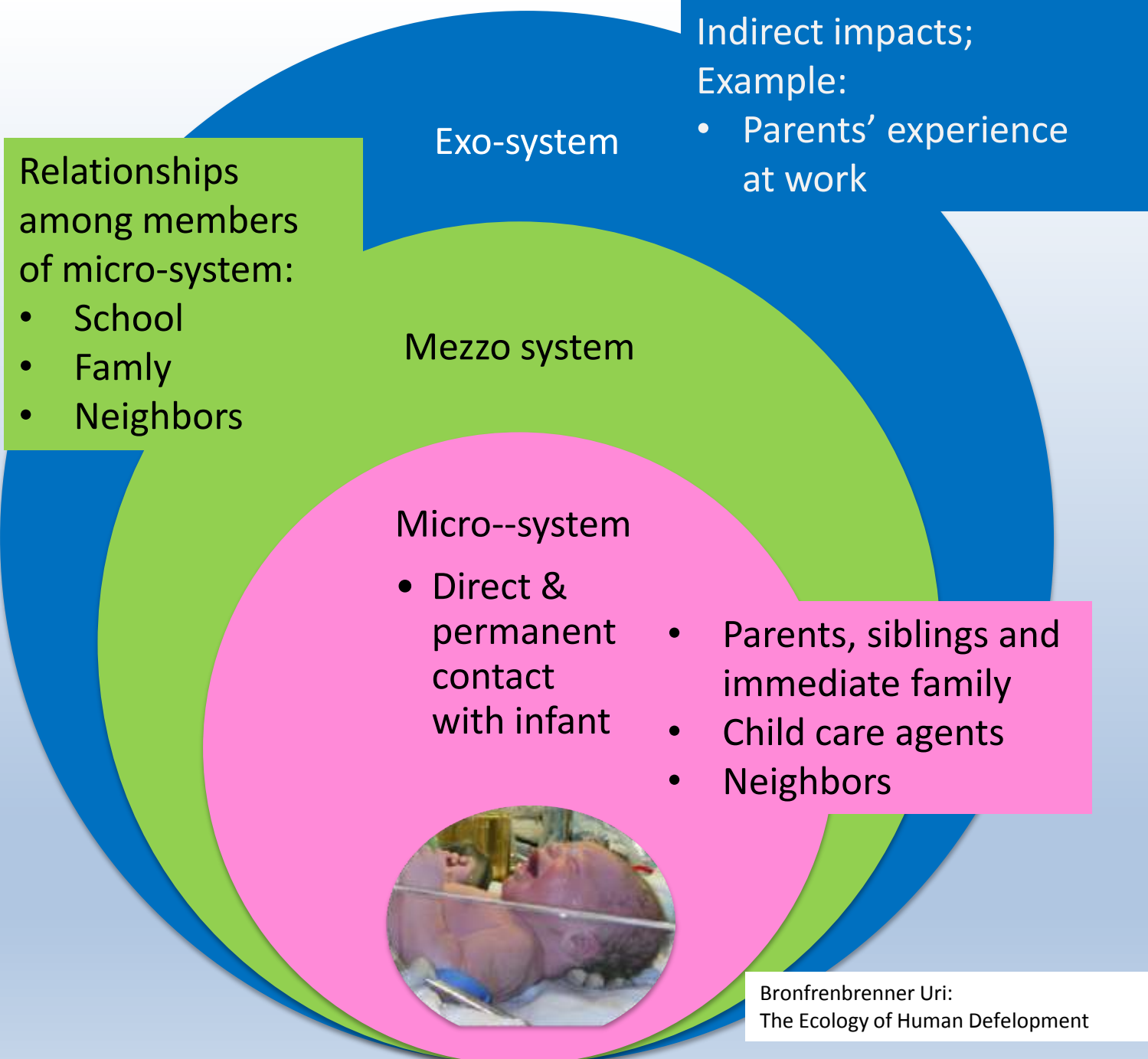
- General population
- Before illness or behavior

Secondary prevention:

- Affected population
- On early stages
- Early treatment

Tertiary prevention:

- Affected population
- On advanced stages of situation
- In need of treatment or rehabilitation
- Prevention of relapse



Relationships among members of micro-system:

- School
- Family
- Neighbors

Exo-system

Indirect impacts;
Example:

- Parents' experience at work

Mezzo system

Micro--system

- Direct & permanent contact with infant
- Parents, siblings and immediate family
- Child care agents
- Neighbors



Primary prevention at micro-system

**Love
and
care**



**Emotional
safety**



**Stimulation
Education
Spirituality**



**Proactive
discipline**



Primary prevention at mezzo-system

**Parent
Teacher
Associations**



**Child
centered
parent-teacher
communication**

**School
climate**



**Proactive
discipline**



A tempting hypothesis to explain high violence in Colombia

Independence war from Spain lasted 25 years

Eight civil wars during nineteenth century

FARC guerrilla war, lasted more than fifty years



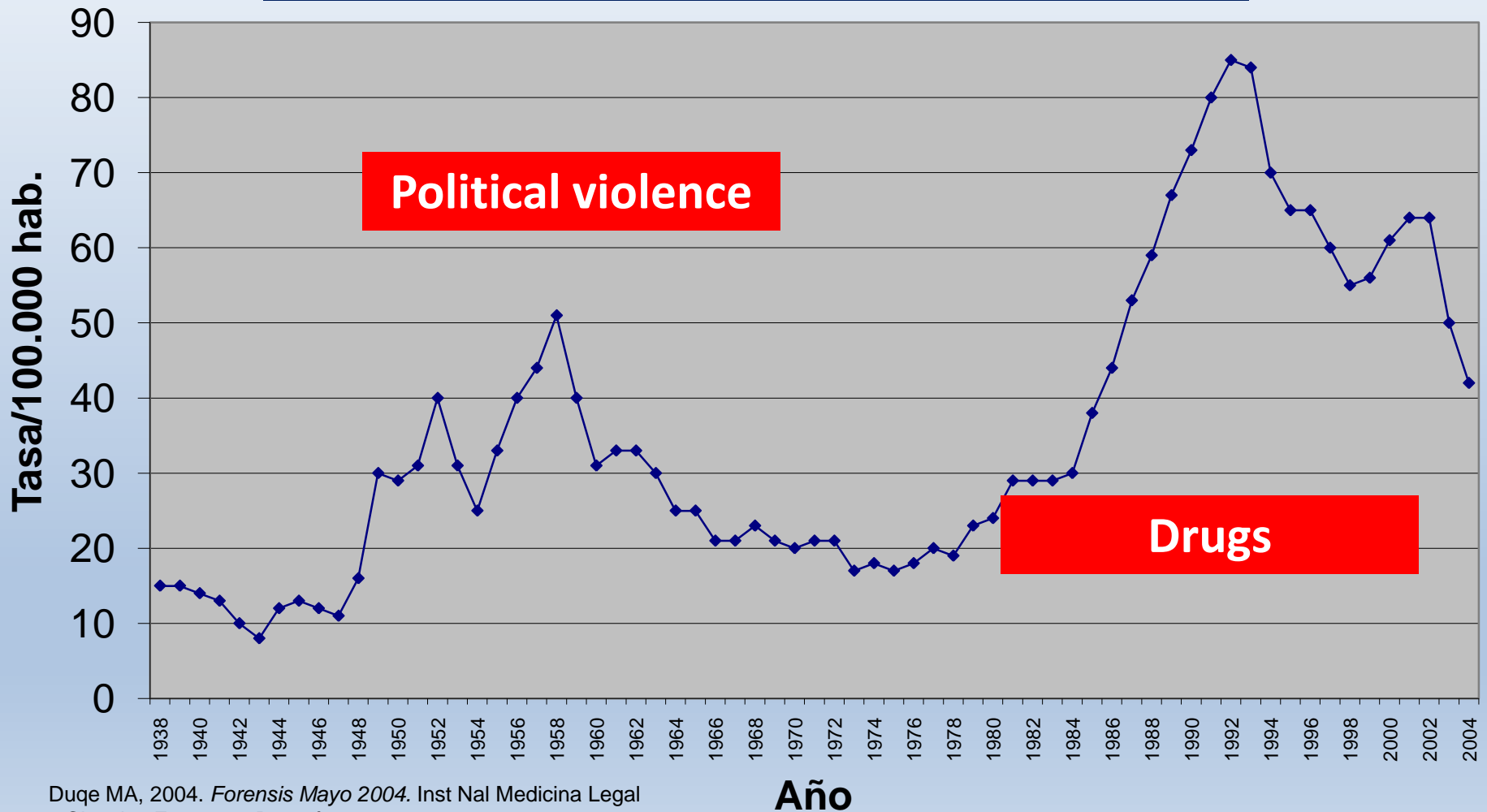
▶ **Capo of a paid killer gang was a 20 years old youth**

▶ **“Chinga Harry” controlled a criminal structure responsible of at least 50 homicides.... .. his first killing when he was 12 year old!**

“EL PAIS. CALI COLOMBIA”

February 20, 2016

HOMICIDE RATE COLOMBIA 1938-2004





ESKERRIK ASKO