



Cryptosporidiosis (Crypto):

The Neglected Parasite *Hiding in Plain Sight*

Cryptosporidiosis is a diarrheal disease caused by the protozoan parasite **Cryptosporidium**. It spreads via **contaminated water, food, or surfaces**, especially where sanitation is weak.

Who it hits hardest

- **Children under 2**
- **Malnourished populations**
- **Immunocompromised people** (e.g., HIV+)

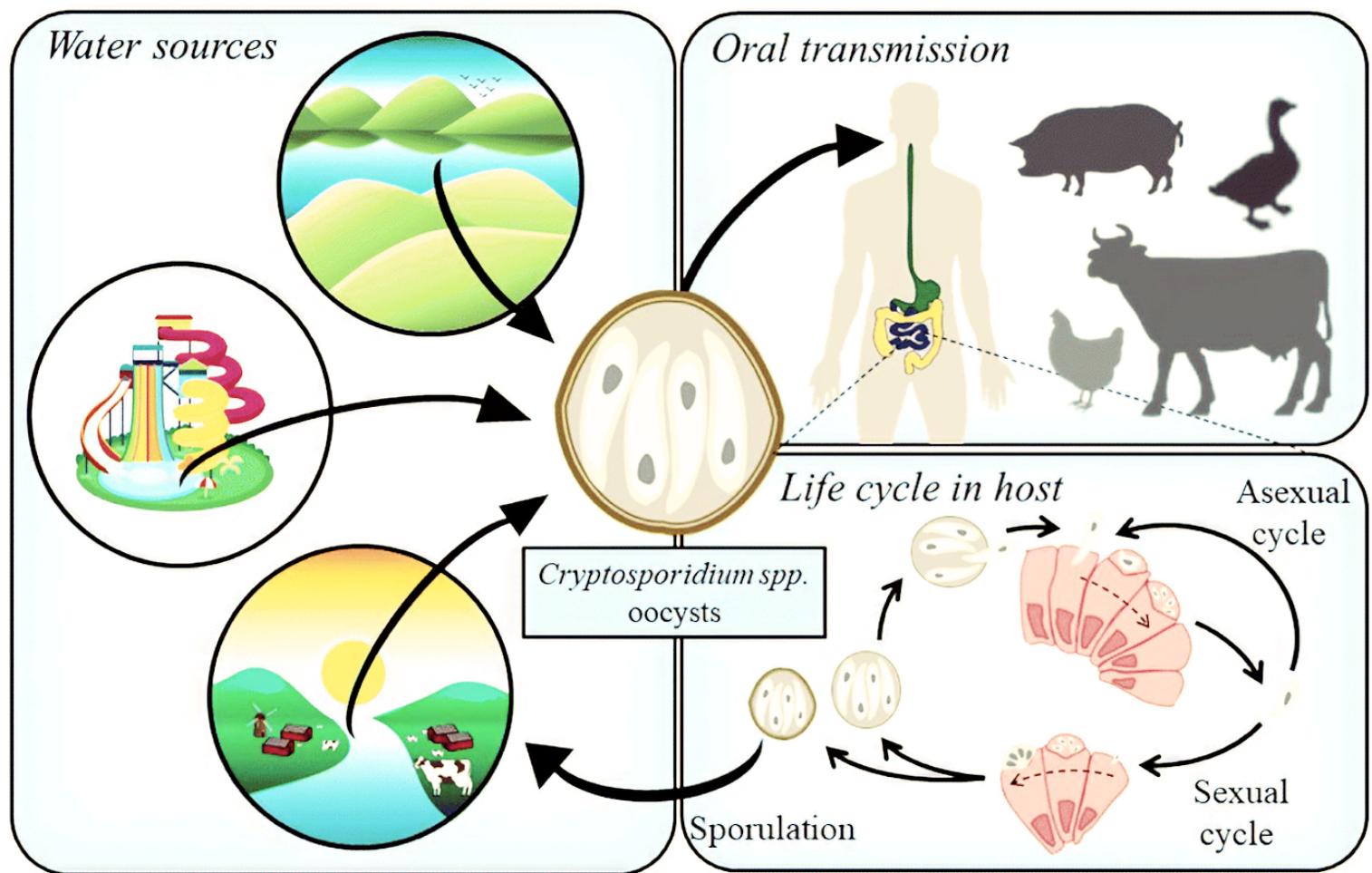
What makes Crypto different (and worse)

It can cause **long-term growth stunting** and **cognitive impairment**—damage that often becomes obvious only later at school age.



Transmission :

This **microscopic parasite** poses a **significant threat to human health** through its **transmission** via **multiple routes**. The **oocysts**, the **infectious stage** of the parasite, can be transmitted through **person-to-person contact**, **contaminated water**, **contaminated food**, and **zoonotic (animal-to-human) transmission**. These **oocysts** are **highly resilient**, able to **survive for months** and **resist chlorination**, making them a **formidable challenge** in maintaining **safe water supplies**.



🚫 Why it's NOT on the WHO Neglected Tropical Disease (NTD) list (yet)

I) WHO criteria for NTDs (simplified)

- Must disproportionately affect impoverished communities
- Must be neglected by research funding and prioritization
- Must be controllable/eliminable with existing interventions

2) Crypto's situation

- Hits poor and vulnerable communities hardest
- Under-researched (no vaccine, few drugs)
- Possibly not listed because it also appears in wealthy nations (e.g., outbreaks)
- Not considered eradicable right now



Funding neglect is real

- **G-FINDER 2023:** Crypto gets <1% of global R&D funding for diarrheal disease
- Research is concentrated in a **tiny handful of labs**
- **No major pharma** is seriously pursuing treatments

🧠 **Bottom line:** Calling Crypto the “**Neglected Parasite**” is accurate in effect, even if not yet in label.

Annual mortality: 200,000+ child deaths (under age 5)

- Crypto is among the **top 3 causes** of diarrheal mortality in under-5s (GEMS + IHME referenced)
- **IHME GBD 2019 estimate:** ~219,000 deaths annually in this group
- Nearly all deaths occur in **low-resource countries**
-  **600+ children dying every day**

Lifelong damage in millions (morbidity beyond mortality)

1) Growth stunting

- Even asymptomatic infections can drive growth faltering by age 2
-  Stunting increases lifelong risks and worsens poverty cycles

2) Cognitive impairment

- Repeated infections correlate with **reduced IQ** and poorer executive function
- The **first 1000 days** are most damaging

 **Mechanism chain (from the PDF):** early infection → impaired brain development → reduced educational attainment → lifelong productivity loss

3) Immune system dysfunction

- Gut inflammation (EED), malabsorption, higher susceptibility to other pathogens

 **Scale:** ~48 million infected annually in low-income countries; **20–25M** measurable stunting; **5–10M** neurodevelopmental delay

 **Economic impact:** World Bank estimate—stunting can reduce GDP by up to **7%**; yet Crypto gets <1% of global R&D funding

💥 At-a-glance: this is a systemic catastrophe

Metric	Value
Annual child deaths	200,000
Annual infections	48–50 million
Children with long-term effects	25–30 million
Global R&D investment	Negligible (<\$20M/year)
Available vaccine	✗ None
Effective treatment for malnourished kids	✗ None
WHO NTD status	✗ Not recognized



Visual breakdown: “25M affected annually”

Category	Impact	Children/ year
Cognitively impaired	IQ loss, learning delays	5M
Stunted for life	Irreversible growth + gut damage	10M
Immune-compromised	Chronic reinfection risk	5M
Severely disabled/fully dependent	Multiple deficits	2.5M
Mild/subclinical	Minor but lasting deficits	2.5M



Where NPI comes in

To change Crypto’s status from “known problem” to global priority with real tools, NPI focuses on:

- **Scientific & policy advocacy** (position papers + WHO-facing proposals)
- **Better burden data** (DALYs + endemic-country epidemiology)
- **Global South leadership** (endemic-country nomination + MoH endorsement)
- **Funders + pharma pressure** (make the market failure impossible to ignore)

