

## Cryptosporidiosis

- “Crypto” is caused by the eukaryotic pathogen *Cryptosporidium* spp. spread through ingestion of contaminated food and water (Fig. 1).
- Infection is most common in children, international travelers, and immunocompromised populations<sup>1</sup>.
- Notable outbreaks due to contaminated water include 1993 Milwaukee (400,000 cases) and 2010 Östersund, Sweden (27,000 cases)<sup>2</sup> (Fig 2).
- Cryptosporidiosis affects the GI tract, with most common symptoms being diarrhea, abdominal pain, nausea, vomiting, and fever<sup>1</sup>.
- Parasite is diagnosed by stool microscopy or molecular detection methods (PCR)<sup>1</sup>.
- If treatment is needed, nitazoxanide or paromomycin can be prescribed<sup>1</sup>.

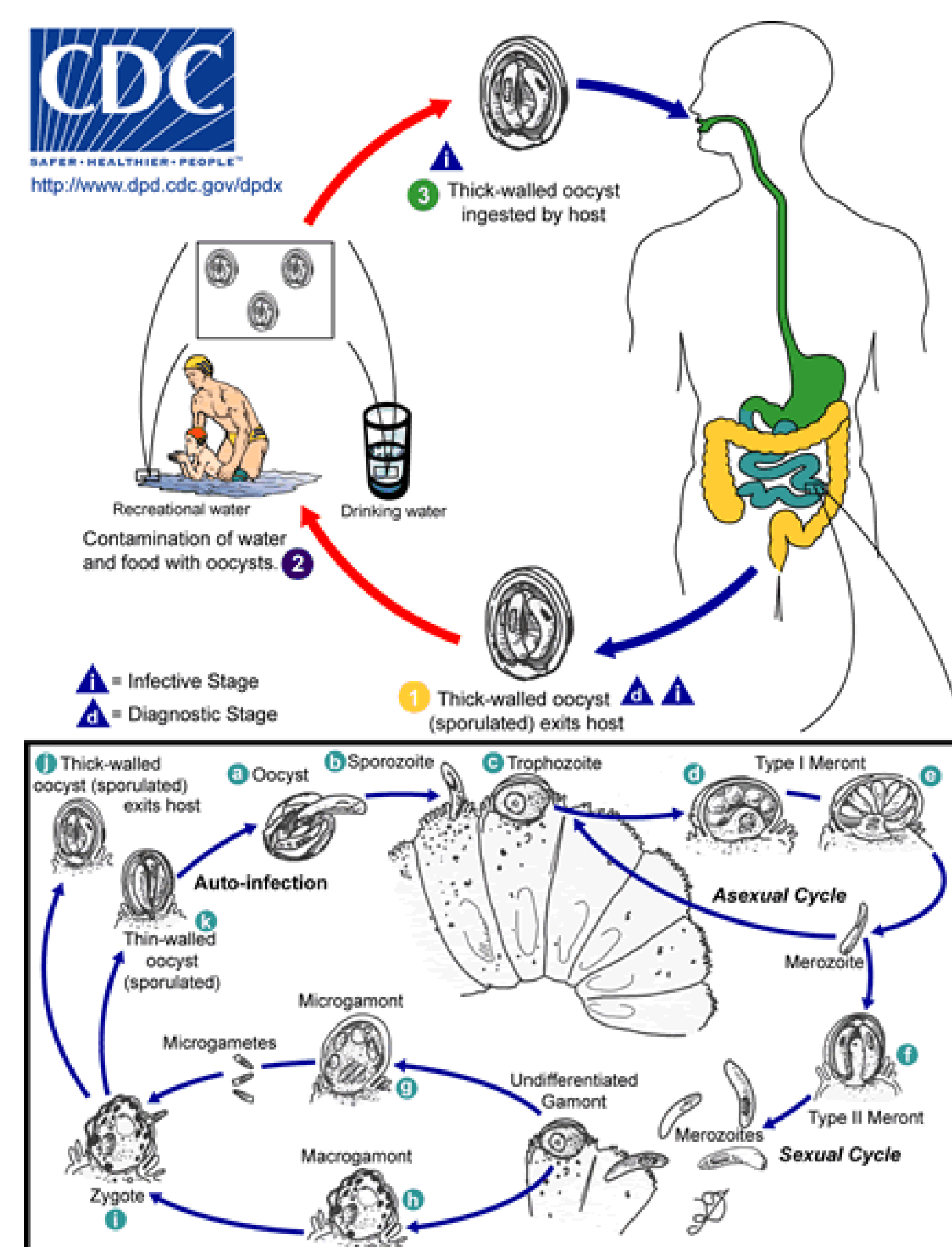


Figure 1. *Cryptosporidium* spp. infectious lifecycle. From Ref 1.

## Inflammatory Bowel Disease

- IBD, including Ulcerative Colitis (UC) and Crohn’s Disease (CD) (Fig. 3), is immune mediated and has environmental, dietary, and genetic influences<sup>3</sup>. Most develop IBD before adulthood, and after 60, suggesting a bimodal distribution<sup>4</sup>.
- Prevalence of IBD is increasing internationally (Fig 2). In the US, prevalence is ~238 (UC) and 201 (CD) per 100,000<sup>4</sup>.
- Characterized by inflammation in the GI tract, with diarrhea, constipation, abdominal pain<sup>3</sup>.
- Diagnosed through lab tests, stool and imaging studies<sup>3</sup>.
- Treatment for IBD includes corticosteroids, aminoglycosylates, and immunomodulators<sup>3</sup>.

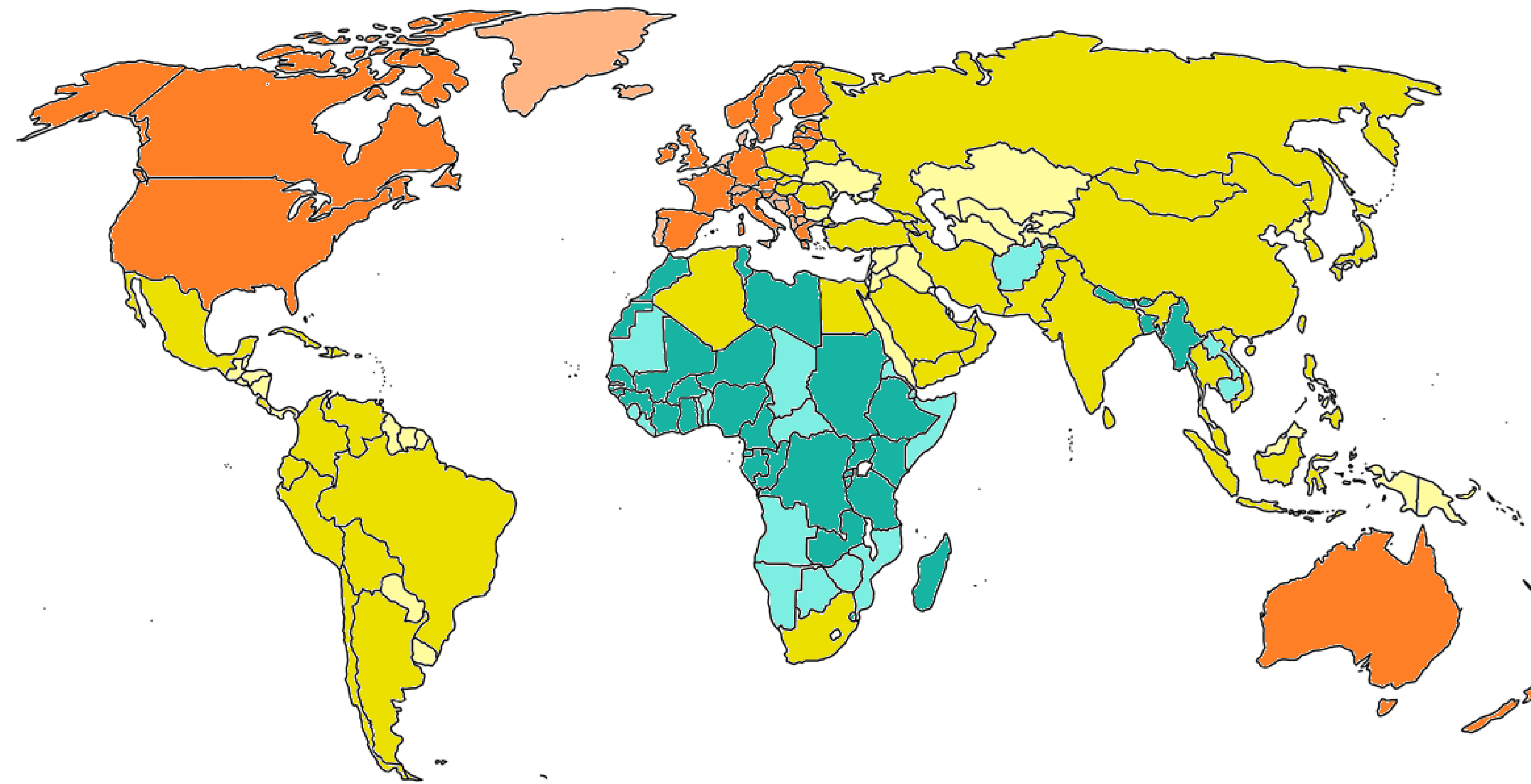


Figure 2. Overview of epidemiology of gastrointestinal disease discussed. Colors represent epidemiological stages of IBD: green, emergence of IBD; yellow, acceleration in incidence; orange, compounding prevalence, as reported by Ref. 3. Shading represents cases of cryptosporidiosis: Dark shading indicates reports of cryptosporidiosis between 1984-2013, as reported by Ref. 4.

## Controversy of the Comorbidity

- In individuals with IBD, cryptosporidiosis may be misdiagnosed as an IBD flare<sup>7</sup>.
- Some studies suggest that cryptosporidiosis may increase the chance of developing IBD<sup>8</sup>.
- It is unclear if cryptosporidiosis exacerbates symptoms of preexisting IBD or can cause a relapse in symptoms<sup>8</sup>.
- While clinical cryptosporidiosis has been reviewed for patients with HIV and other immunosuppressive comorbidities, a structured approach to reviewing comorbidities with IBD has not been performed<sup>7</sup>.

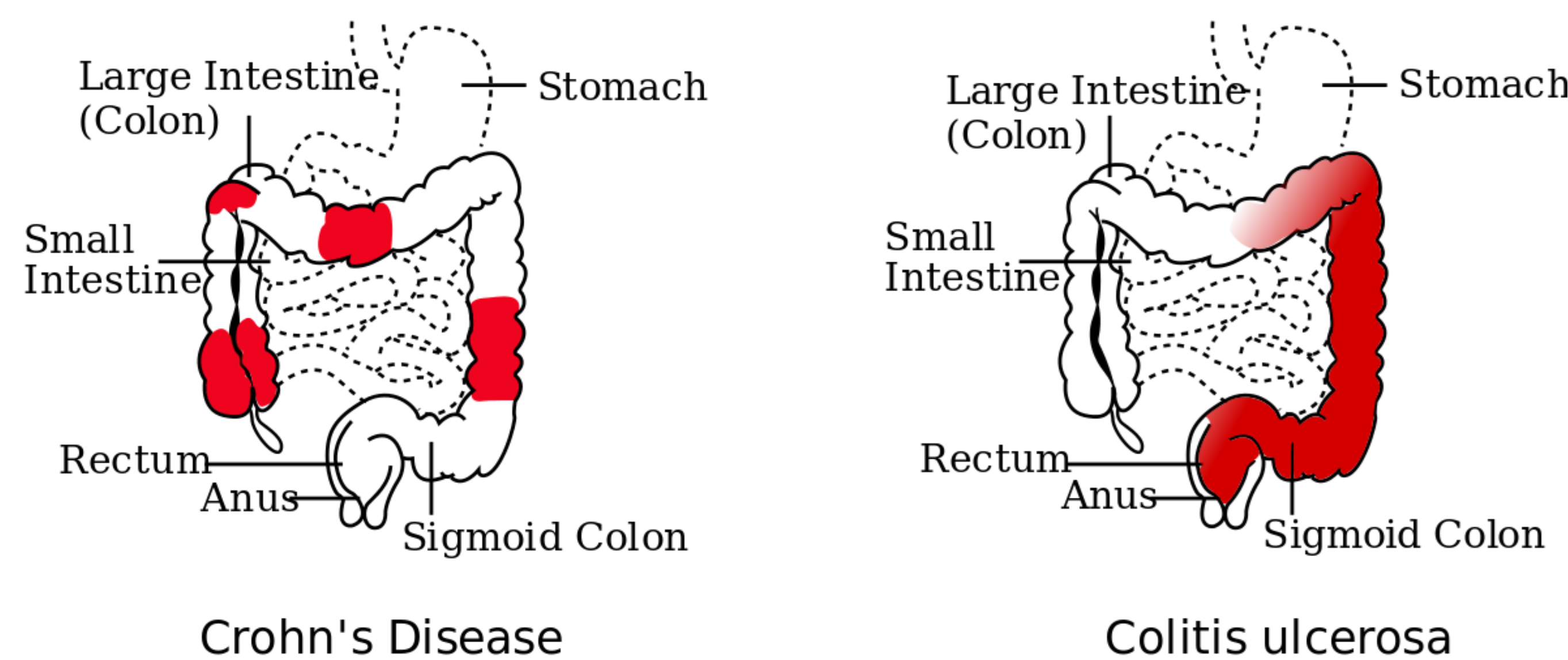


Figure 3. Difference in affected regions in CD and UC. CD can involve anywhere in the GI tract, while UC mainly affects the colon. Image from Wikicommon.

## Methods and Preliminary Results

- This scoping review follows JBI Methodology.
- The search strategy includes a string for IBD combined with a string for cryptosporidiosis (Fig. 4).
- Preliminary search tests show 77 results.

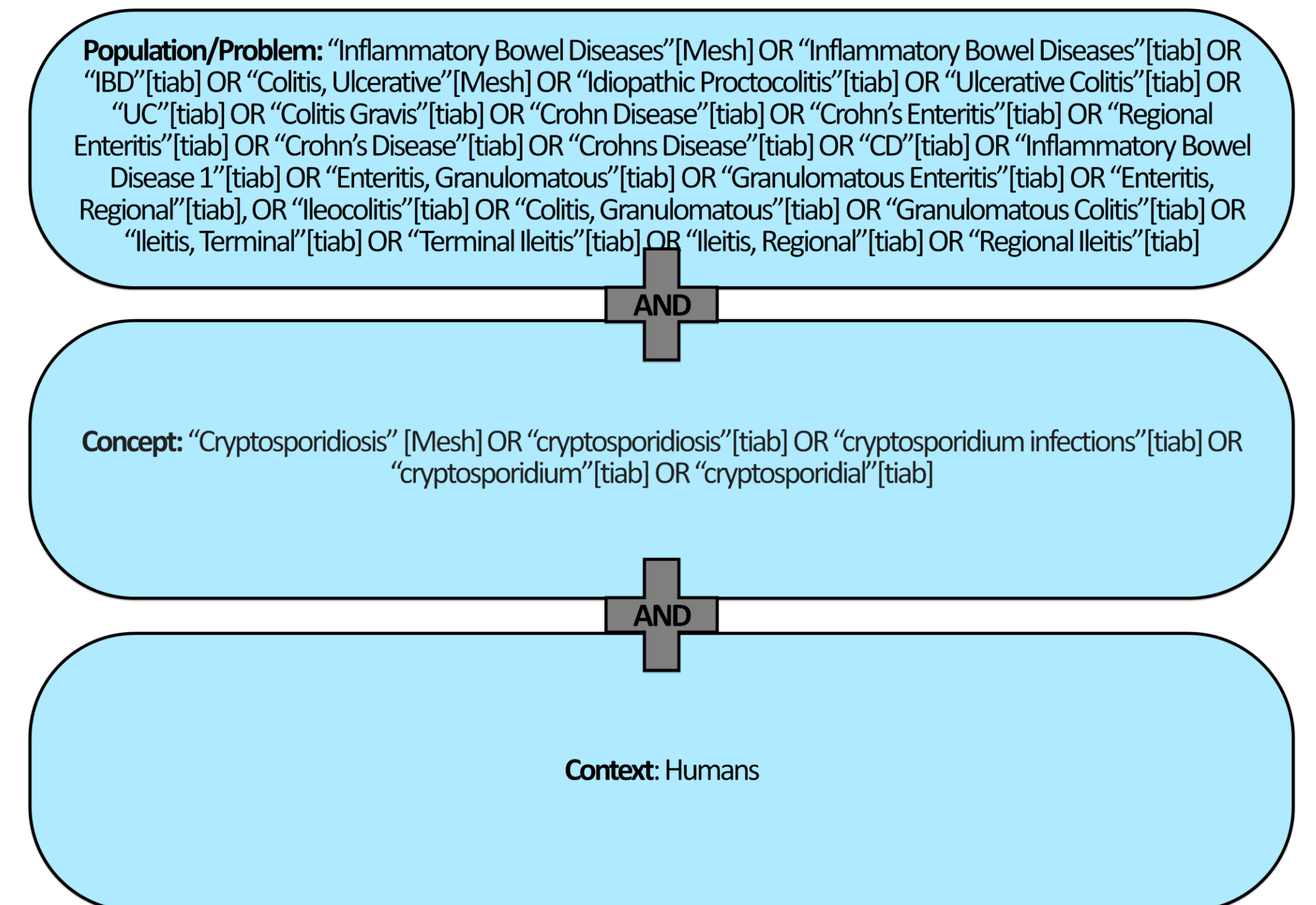


Figure 4. Search strategy

## Next Steps

- Scoping review protocol will be registered with Open Science Framework.
- Review protocol will be submitted to JBI Evidence Synthesis for peer-review<sup>9</sup>.
- After protocol is finalized:
  - we will be adapting the MEDLINE (PubMed) strategy below for other information resources.
  - We will commence title/abstract screening and full-text article screening.

## References

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