13 Beaches analysis - Figure examples

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Description

This document includes some preliminary figures for discussion on content and format in preparation for the final article.

Questions to consider while reviewing the figures:

- Is there anything about the figure that confuses you?
- Does the figure place a clear emphasis on the most important results?
- Is there information or ink used in the figure that is not needed?
- Is the figure self-explanatory?
- Is the figure layout intuitive?
- Is the color pallette appropriate?

The majority of the figure templates follow a common design theme. This is intentional so that the audience will not need to re-orient to a different format for new results. They include panels of results of a dose-response relationship, with each panel representing a stratum of the data (often age group) and the outcome is diarrhea. The exposure is either swim exposure, or *Enterococcus* exposure in quartiles or by the US regulatory cutoff. The figures integrate information across three progressive levels of resolution for each level of exposure: number of individuals at risk and with illness, the cumulative incidence (the focus of the figure), and the adjusted cumulative incidence ratio.

A second type of template, planned for supporting information, presents a forest plot of beach-specific estimates along with pooled estimates. Here, too, the results are stratified by environmental effect modifiers, but not by age (there is not sufficient sample size to stratify the beach-specific estimates by age). We would envision repeating this for *Enterococcus* exposure, stratified by point vs. non-point sources.

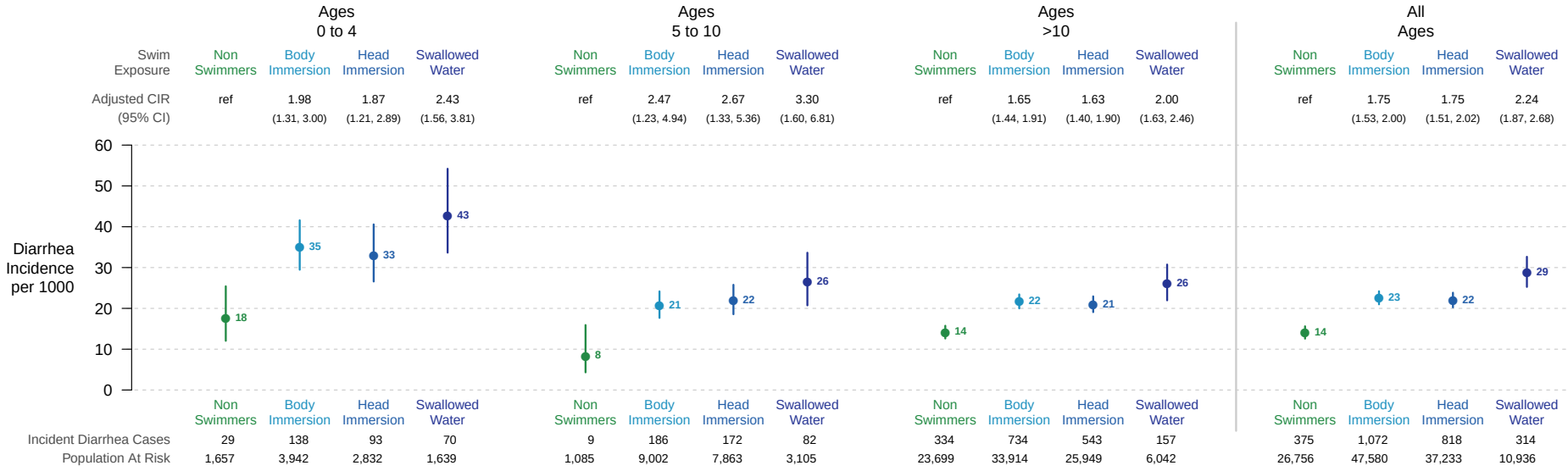
We have yet to develop figure templates to convey the risk of diarrhea, GI-associated medical visits, and missed days of school and work. They are coming in the next iteration.

Swim Exposure Summary

This figure summarizes the results of the swim exposure analyses. The most important information that we wish to convey is:

- Differences in age in the overall risk of diarrhea
- A dose-response relationship between increasing water exposure and diarrhea incidence
- No clear effect modification by age of this relationship

Figure X. Incident Diarrhea Associated with Water Exposure Stratified by Age.
Age-stratified estimates exclude 1,219 individuals with no age information.

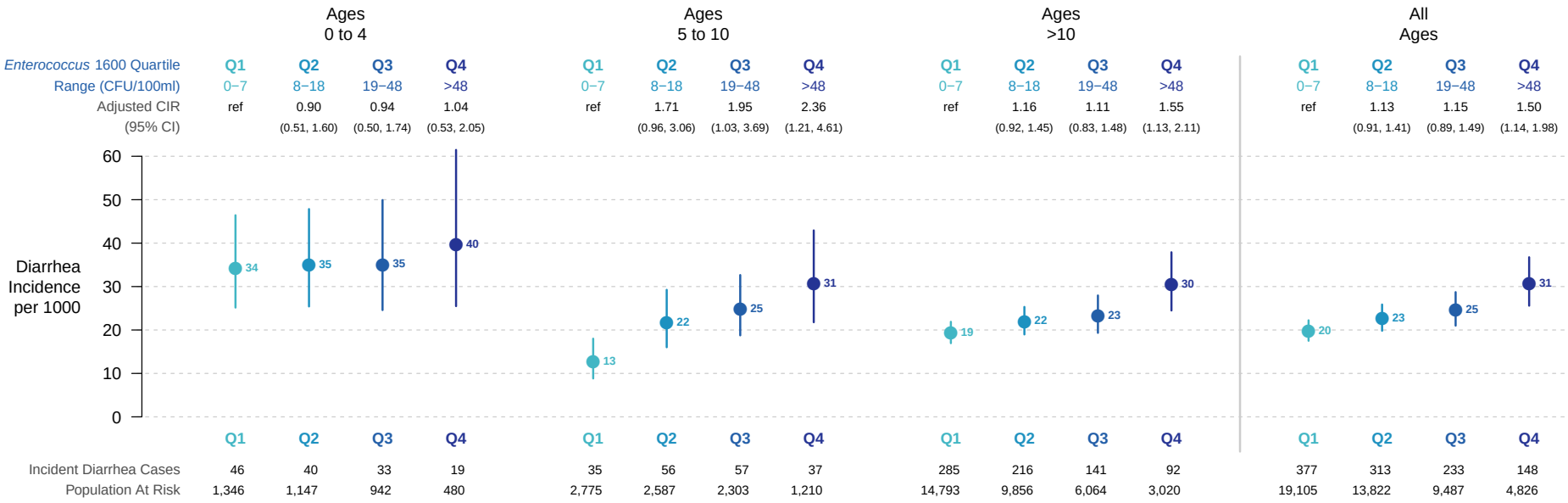


Enterococcus EPA 1600 Quartile Exposure Summary

This figure summarizes the results of the *Enterococcus* EPA 1600 quartile exposure analyses. The most important information that we wish to convey is:

- Differences in age in the overall risk of diarrhea
- Effect modification by age in the dose-response relationship between *Entero* 1600 and diarrhea risk
  - no clear relationship among Ages 0 to 4
  - Strongest dose-response relationship among Ages 5 to 10

Figure X. Incident Diarrhea Among Body Immersion Swimmers Associated with Quartiles of *Enterococcus* EPA 1600 Concentrations. Age-stratified estimates exclude 717 swimmers with no age information.

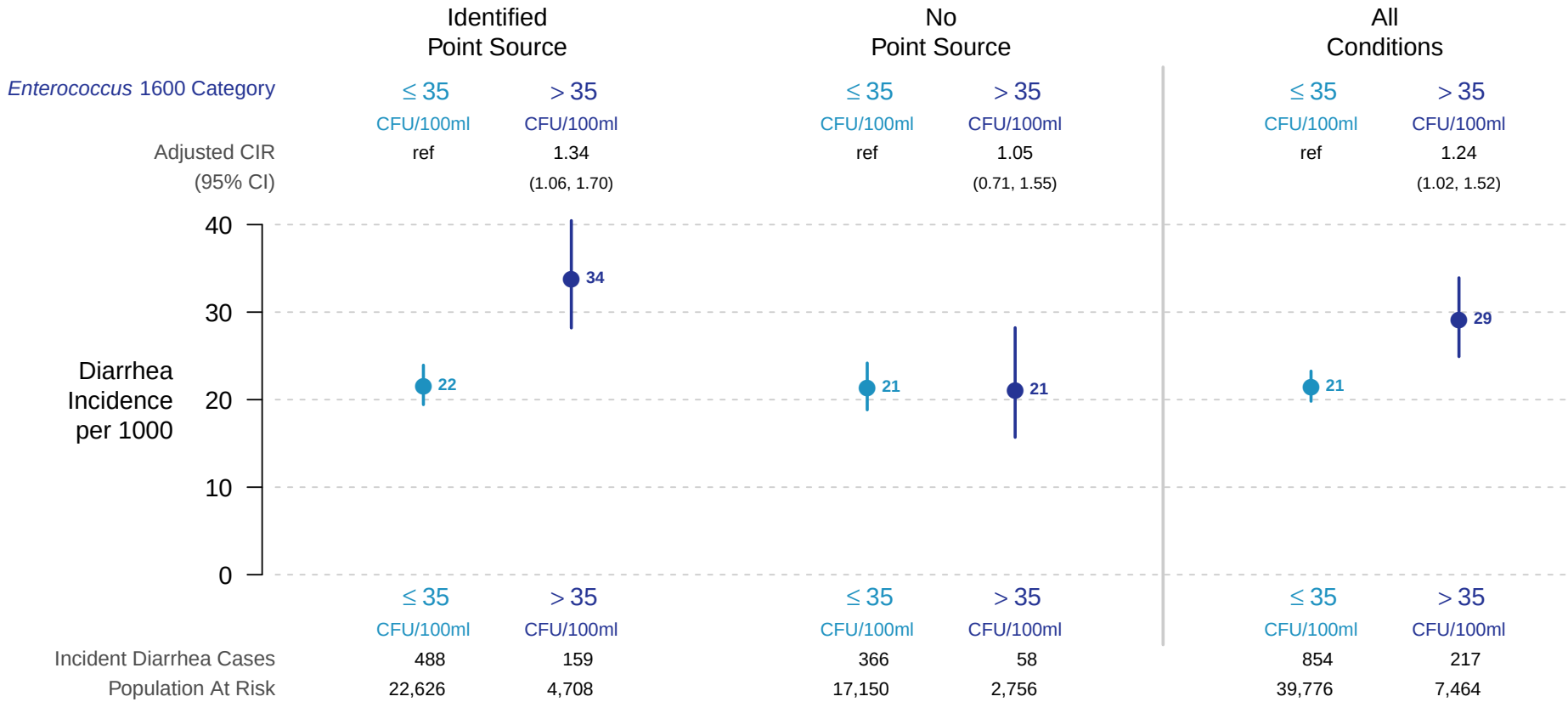


Enterococcus EPA 1600 Regulatory Level Exposure Summary

This figure summarizes the results of the *Enterococcus* EPA 1600 regulatory cutoff exposure analyses. The most important information that we wish to convey is:

- *Enterococcus* levels are associated with illness only under point-source conditions (strong effect modification)

Figure X. Incident Diarrhea Among Body Immersion Swimmers Associated with *Enterococcus* EPA 1600 Concentrations Above and Below Regulatory Guidelines Stratified by Whether the Beach Had An Identified Point Source of Fecal Pollution Nearby.

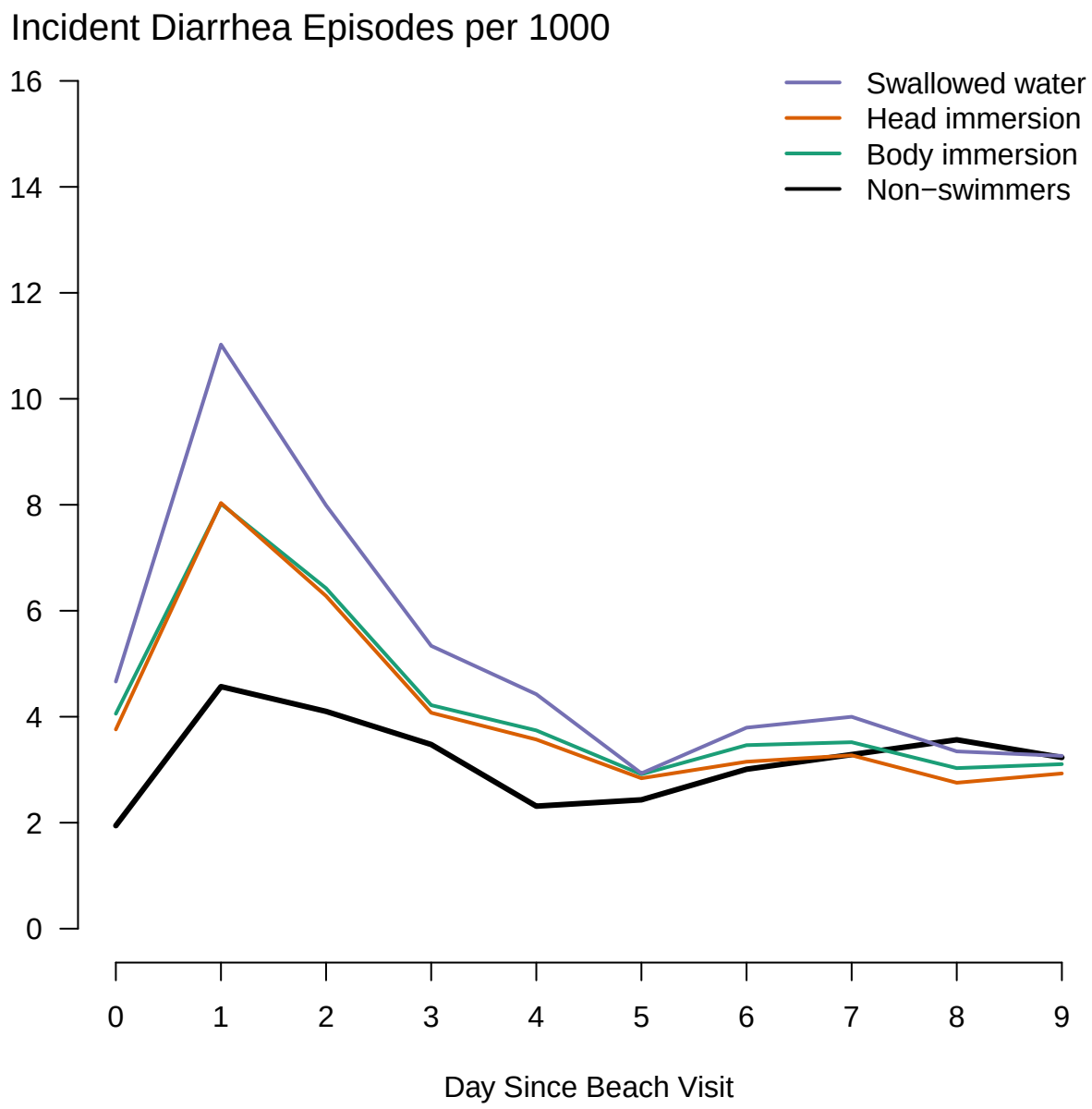


Daily Incidence Plot

The most important information that we wish to convey is:

- The principal increase in risk among swimmers is in the first 3 days following a beach visit
- Swimmers who swallowed water have the highest increase in diarrhea incidence
- There is not much difference between body immersion and head immersion

Supplemental Figure X. Daily Incidence of Diarrhea per 1000 By Different Levels of Swim Exposure



Swim Exposure Beach Forest Plot

Supplemental Figure X. Adjusted Cumulative Incidence Ratio (aCIR) of Diarrhea Associated with Swimming Exposure Stratified by Water Type and Beach.