Topic: SaniPath

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CSE SaniPath Training Virtual Course
The SaniPath Exposure Assessment Tool is designed to:

- Assess public health risks related to poor sanitation and FSM
- Raise awareness about these risks among stakeholders
- Help prioritize sanitation investments based on the exposures that have the greatest public health impact.
Dominant Pathway(s)

The dominant pathway(s) is defined as the pathway(s) that make the greatest contribution(s) to the total fecal exposure.
SaniPath Can Complement Other Tools

Sanitation Programming and Policy
A Simplified and Standardized Method

As described in Raj et. al. *PLOS One*. 2020
Data Collection Methods

Primary Data Collection
• Exposure Behavior
  • Reported frequency of behavior of adults and children that may lead to exposure to fecal contamination
  • Household, School, and Community surveys
• Fecal Contamination
  • Collect environmental samples from relevant exposure pathways
  • Analyze for *E. coli* as an indicator of fecal contamination
The SaniPath Tool Platform

Visit sanipath.org to try out the tool!
The SaniPath Tool Outputs

**Behavior**

**Frequency**

- Never: 47.2%
- 1-5 mins: 13.6%
- 6-10 mins: 6.6%
- >10 mins: 18.8%
- Don't know: 13.6%

Other parameters: intake volumes, duration of exposure, etc.

**Environmental Contamination**

The mean dose and proportion of the population exposed are summarized from simulated distributions and displayed in risk profiles.

Results are presented in a normalized and comparable unit – Dose as MPN E. coli ingested per month

Tool uses Bayeian analysis to estimate the distribution of environmental contamination and frequency of exposure.
Executive Summary

Sanitation quality and access to improved sanitation facilities play an important role in the health of a community. Those communities with low-quality sanitation systems and little to no access carry the greatest disease burden from poor sanitation. To better prioritize sanitation investments and guide intervention strategies to reduce the risk of enteric disease, it is important to assess the contribution that various environmental pathways have on exposure to fecal contamination.

To quantitatively evaluate fecal contamination exposure pathways in urban communities in Dhaka, Bangladesh, the SaniPath Exposure Assessment Tool (Emory University, Atlanta, USA, https://sanipath.org) was deployed from 2017-04-09 to 2018-01-07. The exposure pathways of fecal contamination presented in this report include: Drain Water, Produce, Municipal and Piped Water, Ocean Water, Surface Water, Flood Water, Public Latrine, Particulate, Bathing Water, and Street Food.

Table 4: Recommended interventions for Dhaka, Bangladesh

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Private Domain</th>
<th>Public Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drain Water</td>
<td>Education about the risk of contact with open drain</td>
<td>Better FSM (liquid/solid waste management)</td>
</tr>
<tr>
<td></td>
<td>Better hand hygiene practice (education)</td>
<td>Improve drainage system</td>
</tr>
<tr>
<td>Produce</td>
<td>Better food hygiene practice (education)</td>
<td>Increase regulation of wastewater reuse and quality standards</td>
</tr>
<tr>
<td></td>
<td>Better hand hygiene practice (education for shopkeepers and consumers)</td>
<td>Provide an enabling environment for formalized markets for safe wastewater</td>
</tr>
<tr>
<td></td>
<td>Education for farmers on safe wastewater reuse practices and on crops at greater risk of contamination</td>
<td>reuse in farming</td>
</tr>
<tr>
<td>Surface Water</td>
<td>Education for farmers on crop rotation strategies</td>
<td>Increased regulation of produce quality and transport</td>
</tr>
<tr>
<td></td>
<td>Promote breastfeeding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Avoid high contaminated food (e.g., street food)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Better hand hygiene</td>
<td>Better FSM (liquid/solid waste management)</td>
</tr>
<tr>
<td></td>
<td>Reducing open defecation</td>
<td>Reduce open defecation</td>
</tr>
</tbody>
</table>
SaniPath Sites*

*Not pictured is ongoing work in Pandalam Municipality, Kerala
The unit of exposure to *E. coli* is CFU/MPN per month.
Multi-City Results Dashboard

• Compare results across cities, neighborhoods, and pathways on the SaniPath Website!
Impact: Testimonial from Lusaka, Zambia
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DATA

WaterAid-Cambodia

Water for Cambodia

National Lab of Food and Water Hygiene, Mozambique

TREND

Noguchi Memorial Institute for Medical Research

Water Research Institute - Ghana

Accra Metropolitan Authority

International Water Management Institute

Christian Medical College, Vellore

Georgia Institute of Technology

Makerere School of Public Health

Kampala Capital City Authority

Kumasi Metropolitan Authority

IPAR

Speak Up Africa
Thank You!

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