# Shifting To An Exposure Mindset: How A Strong Trans-disciplinary Approach Can Guide Effective COVID-19 Response In Informal Settlements In Durban

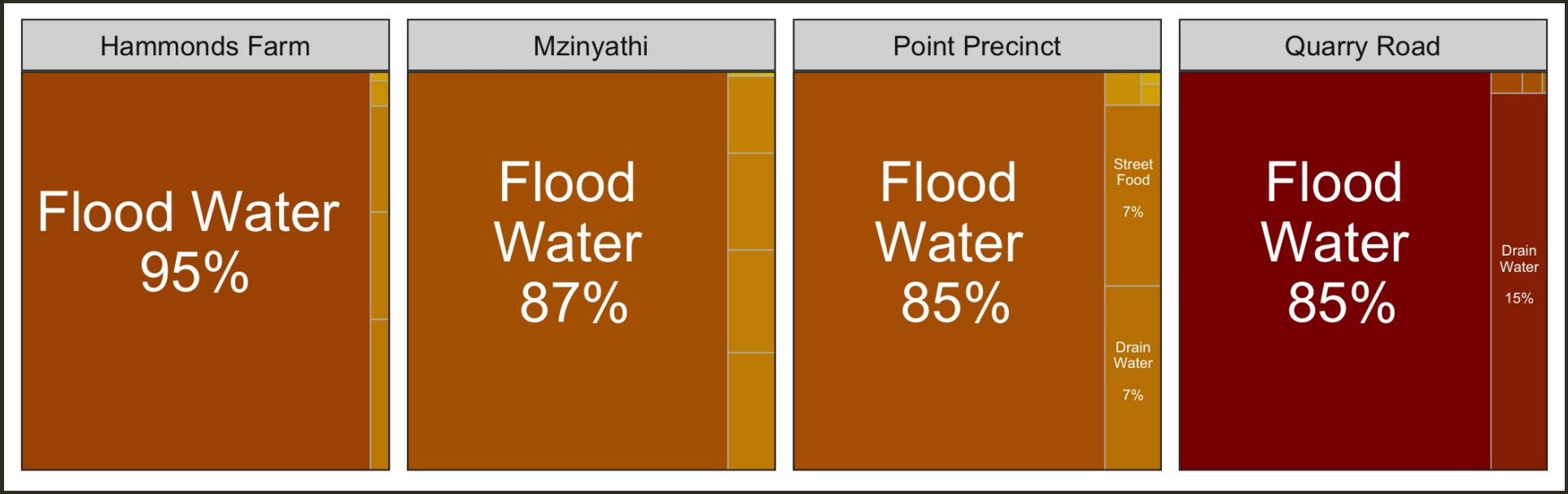
Dr. Rebecca Sindall,
Pollution Research Group,
University of KwaZulu-Natal

# SaniPath: Assessing Public Health Risks

- SaniPath Exposure Assessment Tool is designed to assess risk related to poor sanitation and to help prioritise sanitation investments based on exposures that have greatest public health impact
- Combines environmental sample collection and analyses with behavioural data
- Assesses risk of exposure to faecal contamination in the public domain
- Developed and tested in multiple countries including India, Bangladesh, Ghana and Zambia
- In the process of using tool to assess risks in 10 neighbourhoods in Durban

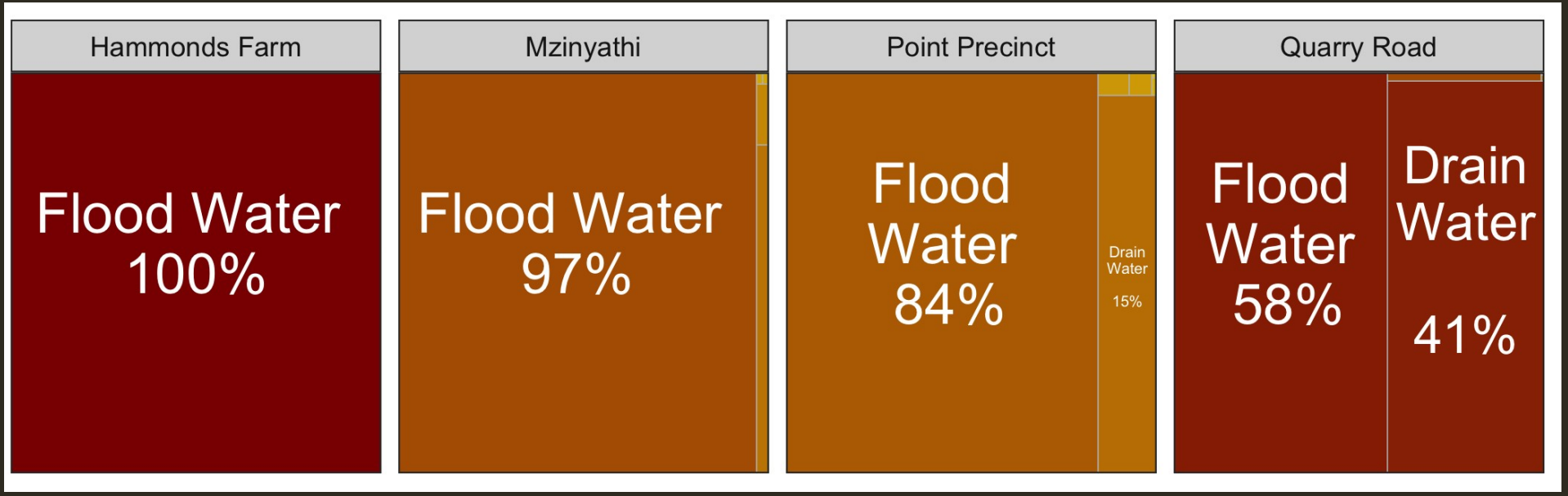

http://saniparth.org/

# Total Exposure To E.coli: Adults*




*NOTE: Results are preliminary

# Total Exposure To E.coli: Children*

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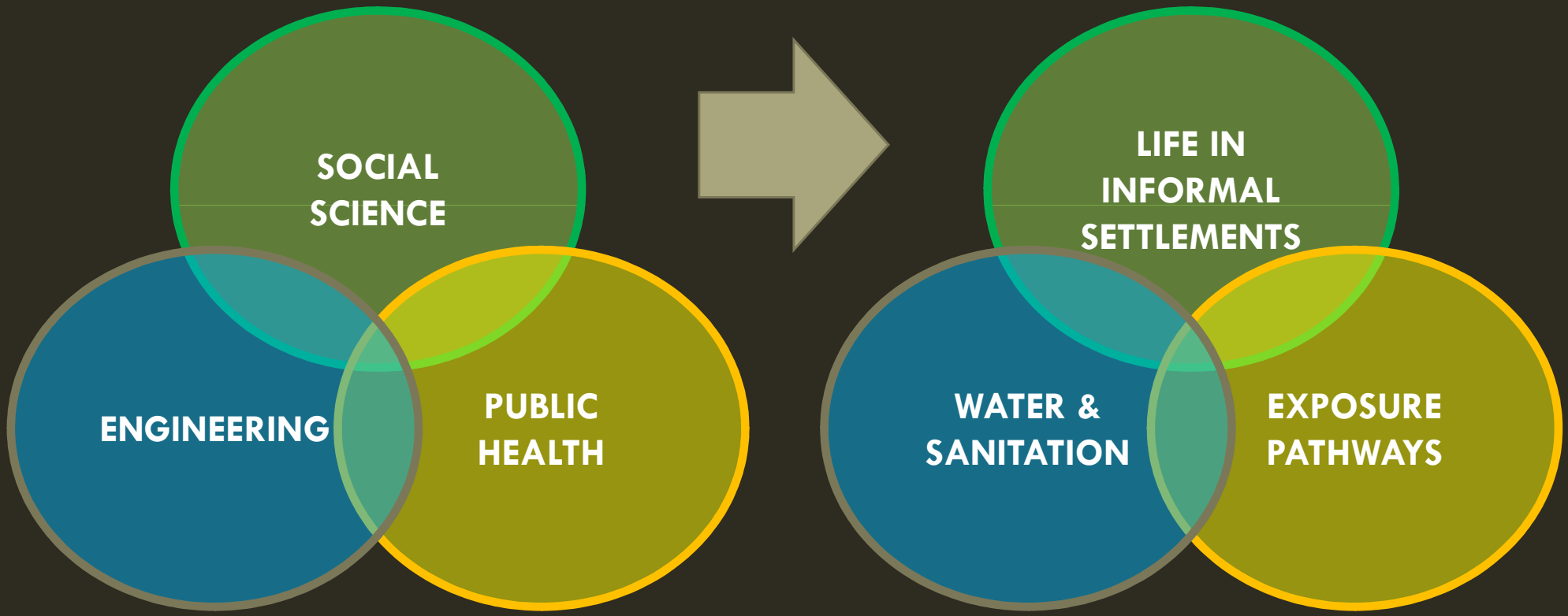
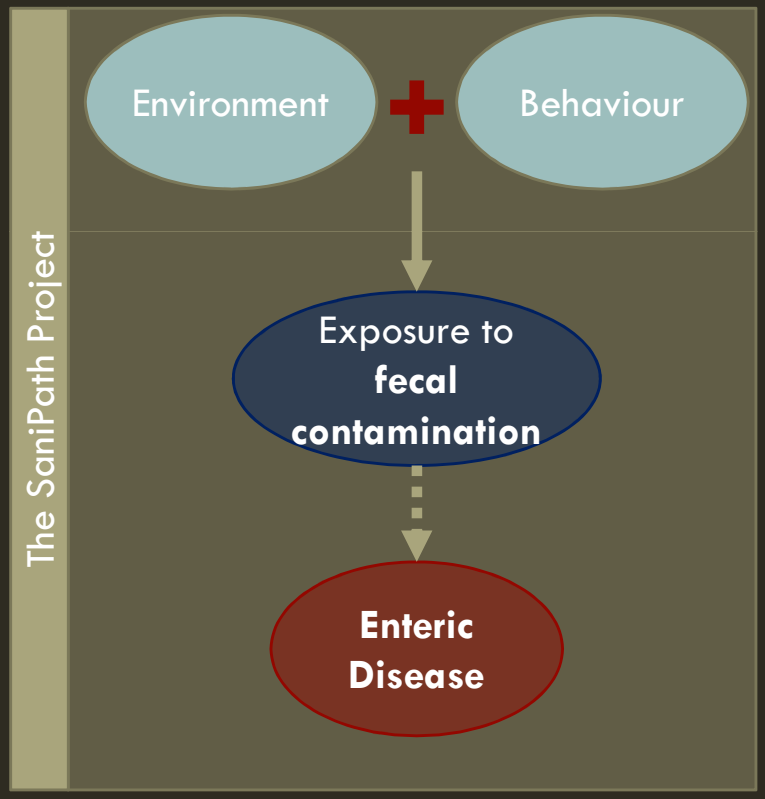
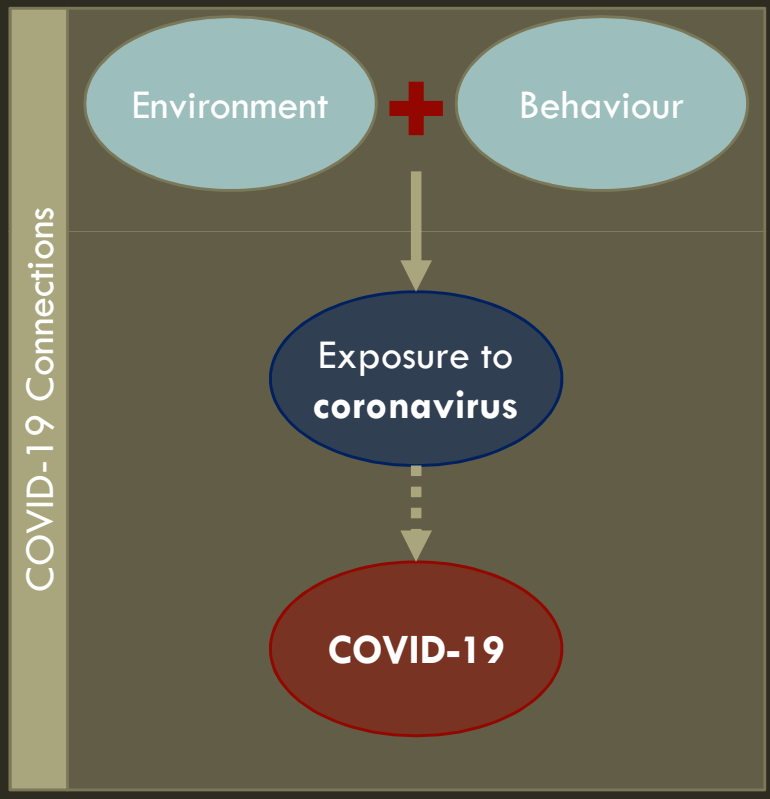
# Linking Disciplines



# Exposure Mindset: Opportunities For Action




- For disease to occur, there must be an exposure that leads to disease
- Exposure is determined by the environment (presence of pathogens, contamination, etc.) and behaviour (actions that bring contact with the environment)
- To change disease outcomes you must change exposure by altering the environment or behaviour



# Key Findings Relevant To COVID-19

- Swabs around communal ablution blocks (CABs) show little to no E. coli (4/10 samples with detectable levels of E. coli)
  - Potential hotspot for exposure to COVID-19, and target area for intervention
  - Frequent and careful cleaning is critical
  - Caretakers are crucial front-line workers and must be protected
- Flood (standing) and drain (flowing) water are high exposure pathways
  - Increased risk due to increased water usage
  - Awareness of evidence of waterborne infection necessary
  - Unsafely managed sanitation (latrine discharge, malfunctioning CAB drainage) could lead to sewage containing COVID-19 to enter open drains and community environment
- Fresh produce is a medium risk exposure pathway for adults and children in some communities
  - Connection between buying fresh produce or street food and interaction with people – handwashing is essential to lower risk

# Importance Of CABs – Opportunities For Reducing Exposure

| Changes to environment | Changes to behaviour |
|---|---|
| CABs open as long as possible | Reduces open defecation; CABs must not become transmission hotspot – queue markers |
| CABs are clean (chemical supply, PPE) | CABs are clean (caretaker training) |
| Soap or hand sanitiser available | Handwashing education |

# WATER USAGE AND DRAINAGE

- Additional water usage from handwashing – state to provide
- Adoption of community-built handwashing interventions e.g. TippyTaps, soap dispensers, soakaways
- Water usage locations may change and spread out
- Drainage is often poor
- Increases risks related to other public health issues (e.g. diarrhoeal disease)
- Needs careful attention for link to COVID-19

# Next Steps

- Working with municipality departments to identify role of state actors e.g. provision of cleaning products, hand sanitiser, reliable water supply
- Working with community leadership to identify interventions community members can drive e.g. queue markers, methods to promote social distancing, handwashing solutions, clear educational messages
- Checking that all recommendations are based on sound scientific evidence
- Testing interventions in real-world settings
- Working with communities to record, measure and reassess impact of interventions

# Why Does It Work?

- Trans-disciplinary team of experts ensures interventions based on evidence
- Integration of evidence from a number of research programmes
- Wide network to bring in additional expertise as required

- Trans-sectoral partnership ensures interventions are reaching people who need them
- Trans-sectoral partnership ensures top-down/bottom-up approaches are aligned
- Trusted network allows quick progress as relationships are already in place

# Acknowledgements


- SaniPath team, Emory University
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- eThekwini Muncipality: Human Settlements Unit
- eThekwini Municipality: City Health Unit
- Iqhaza Lethu team and communities
- …and many others