



A Perspective on Community- Based Risk Assessments

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Fundamental Concepts

- Not all communities are the same
- Different communities can have differential risks due to exposure to environmental contaminants and other stressors
- The same community can have differential risks over time



Fundamental Concepts

- Many of EPA's regulations do not consider these differences
 - NAAQS
 - FQPA
- However there are many communities that may be at higher risks because they are not adequately protected through
 - Environmental regulations
 - The distribution of social benefits
- Not a new concept



Fundamental Concept

- **Cumulative Risk:** The combined risks from aggregate exposures to multiple agents or stressors.
- **Cumulative risk assessment:** An analysis, characterization, and possible quantification of the combined risks to health or the environment from multiple agents or stressors.

...**Source: *Framework for Cumulative Risk Assessment, 2003***



Questions

- How do we identify the most important risks in these communities?
- How do we assess the cumulative risk in these communities?
- How do we develop appropriate risk mitigation procedures?



My Perspectives on this Issue

- Developed during the past
 - 3 to 4 years
 - 3 to 4 months
 - 3 to 4 days

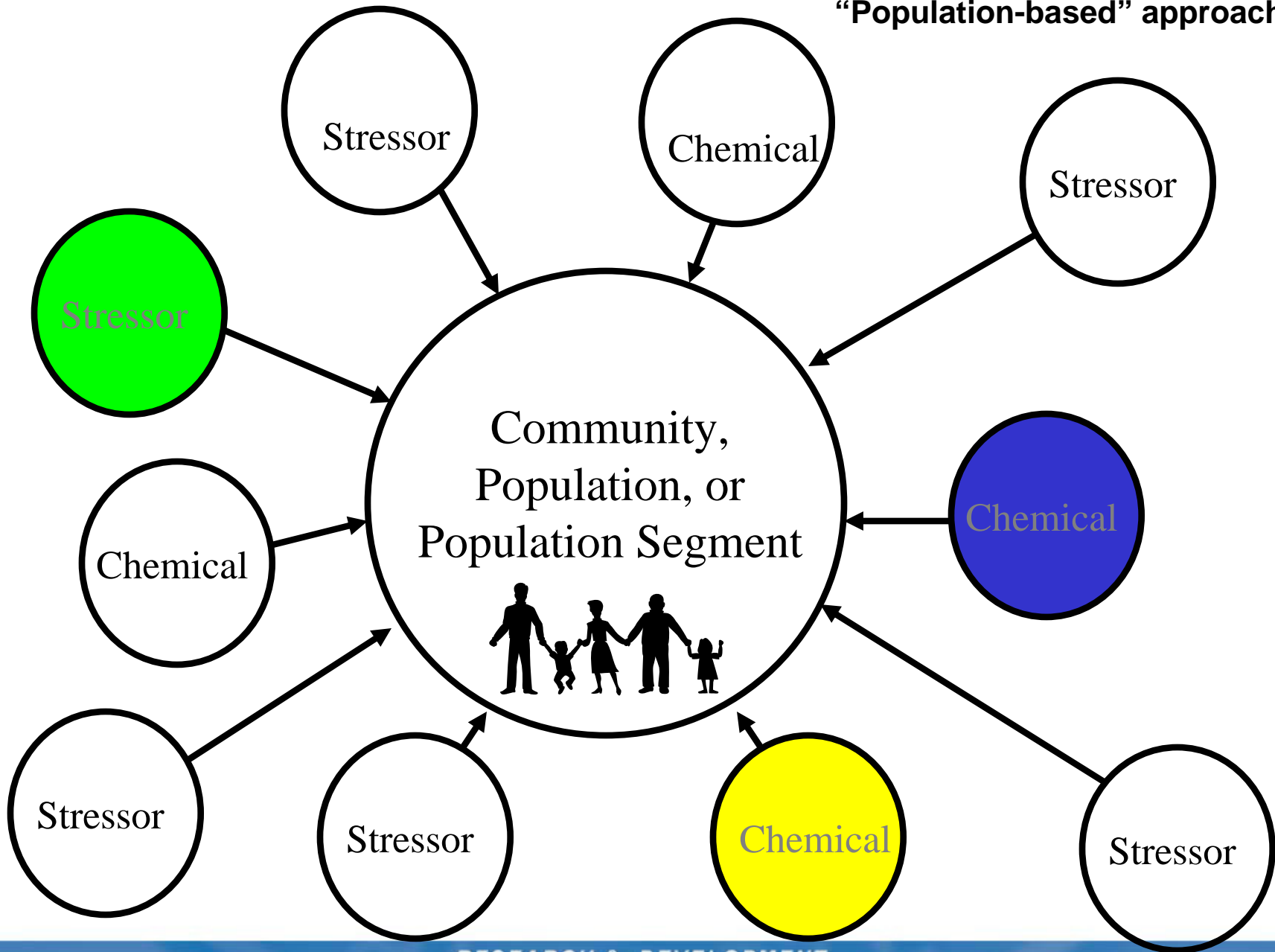


Past 3 to 4 years

- NERL research program in Aggregate Risk
- How to extend to cumulative risk
 - Not just going from one to mixtures of chemicals, *but*
 - Needed to consider multiple stressors
 - Must consider the community to do this



“Population-based” approach



RESEARCH & DEVELOPMENT

Building a scientific foundation for sound environmental decisions

Past 3 to 4 Months

- Introduced to Ecological Research
- Ecologists are always considering
 - Communities – i.e., ecosystems
 - The entire range of stressors and cascading effects
- They have developed models and GIS tools that should be applicable here
- We should learn from the ecologist



Past 3 to 4 Days

- ISEA meeting –
 - Application of advanced statistical, GIS, and modeling tools to understand exposure and risk
 - Marie Lynn Miranda – lead and air toxics
 - Marc Serre – water contamination, CAFO
 - Must consider concerns of the community and work with the community
 - Need for tools to use at the community level
 - Need to Develop Partnerships for community work – CARE Program

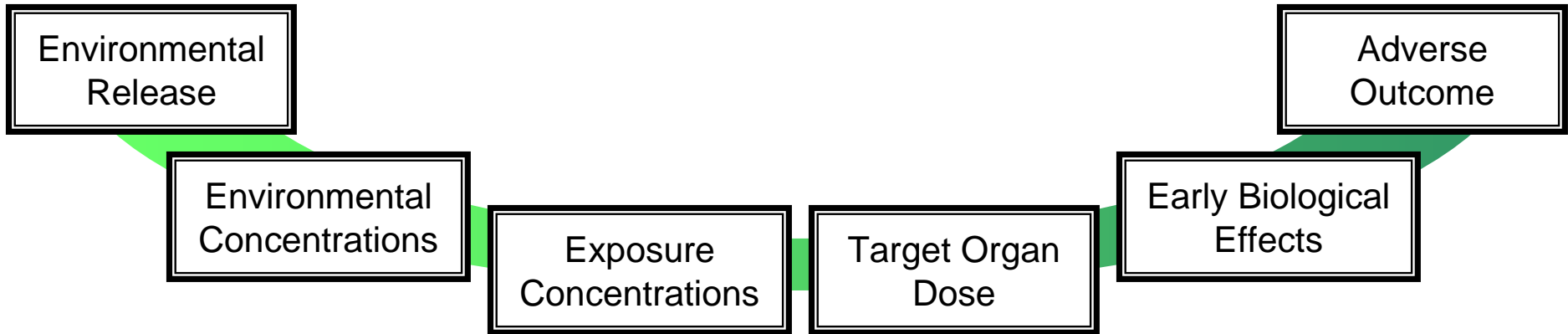


So, what is needed

- Science
- Tools
- Communication
- Partnerships
- Trust



Building the Science



This is the “core” research that we are conducting to determine exposure and health risks



Building the Tools

- This should be the emphasis
 - Simple easy low cost monitoring methods
 - GIS tools
 - Models for exposure
 - Comparative data bases
 - Tools for interpretation
 - Primers for conducting assessments and using the tools



Communication

- As scientists, we need to keep it simple
 - “Working toward Duh”
- Listen to the community
 - Hear their concerns
 - Know that they are different and how this impacts their risk
- Describe the science
 - The issues
 - What we know
 - What we can do to change it
 - What else we know that can help the community



*All researchers must be
involved with the community
at some level*



Paradigm shifts

- For Agency: From decision-maker to providing technical assistance to help communities make decisions
- For Exposure and risk analysis: From analysis done for community to partnering in a deliberative process



Summary

- This is important – we have an opportunity to make a difference
- This is hard work
 - Multidisciplinary
 - Communities must be involved
 - Impact is important
- We have the technology to do it and that will keep improving
- We just need learn how to put it together

That's what this workshop is about

THANK YOU!

