

Loma Linda University  
School of Public Health

Environmental Railyard  
Research Impacting  
Community Health  
(ENRRICH) Project

# Background

- Response to an RFP:

- Community Benefit Programs Addressing Conditions Caused or Exacerbated by Air Pollution

- Title of Application:

- *Responding to a Community's Call for Action: Studying the Health Effects of an Intermodal Railyard in San Bernardino*



# Background

- Local residents are likely to experience a “multiple jeopardy”
  - Railyard emissions
  - High levels of regional air pollution
  - Chronic community and psychosocial stress.
- Lack of primary data
  - Limits opportunities for policy changes and interventions.

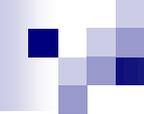
# Principal Investigators

- Dr. Sam Soret



- Dr. Susanne Montgomery





# Key Personnel

- Meet the LLU research team
  - Dr. Rhonda Hwang
  - Dr. Synnove Knutsen
  - Dr. Mark Ghamsary
  - Mr. David Shavlik
  - Dr. John Morgan
  - Dr. Larry Beeson
  - Mr. Seth Wiafe
  - Research Assistants



# Community Partner-CCAEEJ

- Penny Newman
  - Director and founder of the Center for Community Action and Environmental Justice (CCAEEJ)
- Sylvia Bentancourt
  - Project coordinator
- Field Research Teams



# Overall Goals

- To create a partnership between community members and researchers
  - Focusing on building trust and creating a common vocabulary with which to discuss community concerns about health impacts related to the SBR emissions.
- To generate and analyze objective data about the prevalence of adverse health effects.
- To support and strengthen informed community response to current railyard related emissions and the resulting environmental impact challenges.

# The Approach

- We plan to achieve these goals through community based participatory research (CBPR) engagement in which researchers and community closely collaborate on all aspects of the research process.



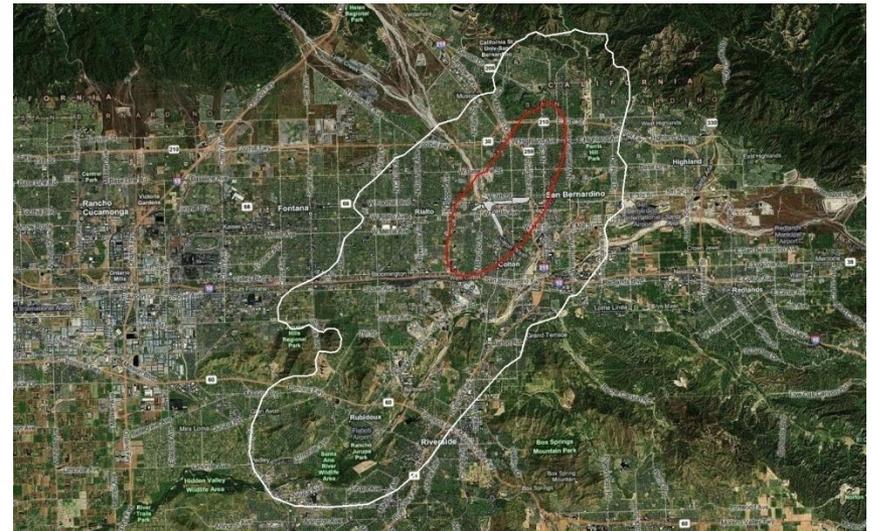


# Specific Objectives

- (1) assess whether there is an excess in the observed number of new and fatal cancer cases (1999-2008) in areas near the SBR;
- (2) carry out household- and school-based surveys to gather data on prevalence of respiratory/CVD disease, symptoms and biologic outcomes; and
- (3) develop an informed community response to reduce railyard exposures and related health impacts.

# Household Survey

- Data from at least 1,200 community members during Summer and Winter
- Community members identified in 600 homes along 3 zones located at varying distances (using the 2008 report boundary definitions for cancer risk) away from the railyard.

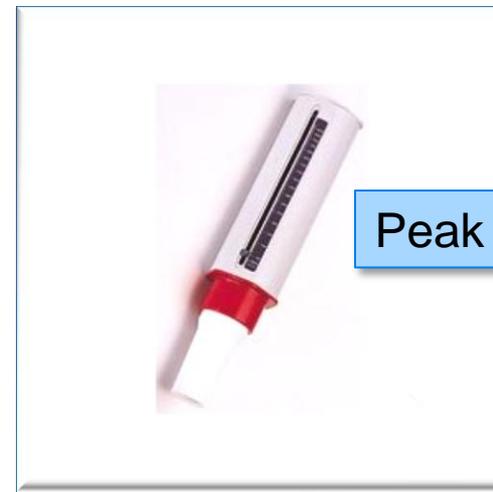


# Household Measurements

- Community team members go door to door
  - For each house we will collect
    - Questionnaire
    - Lung Capacity (Peak Flow Meter)
    - Airway inflammation – NO (NIOX MINO)
    - Air quality measurements (UFP counts)
  - Participants receive a small incentive to thank them for participating.



NIOX MINO

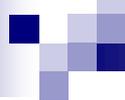


Peak Flow Meter

# School Surveys

- Two elementary schools
  - Ramona-Alessandro Elementary
  - Oleander Elementary
- Approximately 700 children (350 at each school)
  - With approved consent from the parent/guardian
  - Airway inflammation and Lung Capacity Measurements
  - Short survey answered by the parent/guardian
- Incentives for the schools and the children





# Timeline

- The entire study is from January 1, 2011 through December 31, 2012.
- For community data collection data Jun-August 2011 (year 1) and then second round of data Jan-March 2012 (year 2).
- School data collection in fall of 2011

# Endorsements

- Patrick J. Morris



- The Mayor of San Bernardino
- “This project will have tremendous impact on the residents of San Bernardino. The community is highly concerned about the health effects of railyard exposure as they are the ones who live directly in the backyard of the intermodal railyard.”

# Endorsements

- Richard Hart, MD, DrPH



- Loma Linda University President

- “Doing a rigorous health outcomes and needs assessment study...is the next logical step and needs to be done in close partnership with the community and an eye toward interventions on many levels. I am excited that this application represents a strong collaboration between us here at Loma Linda University, the city of San Bernardino, local collaborates, and the community.”

# Work as of to-date

- We have conducted key informant interviews and focus groups with community members.
  - The results used to guide development of the overall survey instrument.
- Cancer analysis is well underway
- Training of community team members
- LLU Health Educators (MPH) formulating community intervention and training
- Meetings with key city officials, stake holders, health officer, community members...etc.
- Website development ([www.enrich.org](http://www.enrich.org))



Project ENRRICH: Qualitative Analysis

# **CORE CONCEPT AND EMERGENT THEMES**

# Methods

- Grounded Theory Methodology
- Semi-structured Key Informant Interviews (**n=12**)
- Five Validation Focus Groups (**n=53**)
- All interviews conducted in both English and Spanish
- Held interviews at Ruben Campos Community Center, San Bernardino, California
- November 2010 – February 2011
- Interviewees recruited for triangulation from:
  - El Sol
  - Center for Community Action and Environmental Justice (CCA EJ)
  - Mary's Table Homeless Shelter
  - Salvation Army
  - Community
  - KI interviews and validation FG's were transcribed verbatim, translated, and coded for emergent themes

# Core Concept & Emergent Themes

- Core Concept

- “Experiences of the Railyard Community: Life is Hard”

- Four (4) Emergent Themes

1. Complexities of life
2. Air quality
3. Railyard –Mixed emotions
4. Health as an unattainable value

# Emergent Themes

## 1. *Complexities of Life*

- Daily burdens already exist for the members of this community such as low SES and violence within community (drugs, gangs), which are further confounded by additional burdens of living near the railyard (poor air quality and noise pollution).

## 2. *Air Quality*

- Community members perceive the air quality surrounding the railyard as a detriment to their children's health, thus they aim to band together as one in order to make sustainable changes in preventing further negative health outcomes.

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# Emergent Themes

## 3. *Railyard: Mixed Emotions*

- The railyard is perceived as a benefit and a barrier to the community. It is valued for the jobs it provides, but is also perceived as causing poor air quality and noise pollution.

## 4. *Health as unattainable value*

- Adult community members view health as an unattainable value for themselves personally, but value health for their children, adding to their motivation for change.

# Quotes

## 1. *Complexity of life*

- “They just now put new stucco’s on all the houses, they put lights around, they doing all the yards, they gonna put fences around” (African American, Male)

## 2. *Air Quality*

- “In the summertime it’s worse.... Especially when it’s humid” (African American, Male)

# Quotes

## 3. *Railyard: Mixed Emotions*

- “...because they continue to use dirty equipment, then that pollutes the air which harms the neighbors. So all we want is really for them to be good neighbors; to be responsible”(Hispanic, Female)

## 4. *Health as unattainable value*

- “the younger generation is coming up with more health issues like asthma, bronchitis and it seems like the newer generations is being diagnosed with more sicknesses and people our age are just not diagnosed” (African American, Female)

## ONE FINAL NOTE:

It will take all of us working together to achieve these goals and much more to ultimately promote and improve a healthier environment surrounding the railyard.

**TOGETHER WE CAN!**





Questions?