



INTERNATIONAL SOCIETY
FOR DISEASE SURVEILLANCE



Analytic Solutions for Real-Time Biosurveillance
Models for Risk of Asthma Exacerbations in Urban Environments

March 30-31, 2016

Boston Public Health Commission
Hayes Conference Room, 2nd floor
1010 Massachusetts Ave #2, Boston, MA 02118

Purpose:

To explore models for environmental risk factors that contribute to population-level asthma exacerbations in urban environments and to define the technologies needed to automate the model in Boston.

Consultancy Day 1: March 30, 2016	
9:00	Meet and Greet with Continental Breakfast
10:00	Welcome to the BPHC <i>Monica Valdes Lupi, Executive Director, BPHC</i>
10:15	Welcome to the Consultancy - Introductions <i>Laura Streichert, ISDS</i>
10:45	Use Case Goals and Requirements <i>Julia Gunn, BPHC</i>
11:00	The Asthma Problem in Boston <i>Margaret Reid, Director, Division of Healthy Homes and Community Supports, BPHC</i> <ul style="list-style-type: none"> • What is the BPHC program? • What are the factors that make asthma worse and may cause asthma? • If we could anticipate events, what would we like to know? • How would we use this information? <i>Moderated Group Discussion</i>
12:00	Lunch Provided
12:45	Syndromic Surveillance for Asthma <i>Julia Gunn, BPHC</i> <ul style="list-style-type: none"> • Boston’s Syndromic surveillance system • What makes it particularly useful? (ex: near real time info) • Examples of how we use it for asthma • Summary of data features: <ul style="list-style-type: none"> ▪ Date range of benchmark set ▪ Number of hospitals and total records ▪ Relevant data fields

	<ul style="list-style-type: none"> ▪ Summary of syndrome classification ▪ Age distributions <p><i>Moderated Group Discussion</i></p>
1:45	<p>Environmental Data Sources <i>Steve Babin, JHU/APL, moderator</i> <i>Haig Iskenderian, MIT Lincoln Laboratory, presenter</i> <i>Ivanka Stajner, NOAA, presenter</i></p> <ul style="list-style-type: none"> • Relationship to exacerbations, availability and timeliness, quality, coverage and resolution (time and space) • Weather: temperature, solar radiation, precipitation • Air Quality: Ozone, PM2.5, Sulfur Dioxide • Pollen, mold, allergens • Other environmental risk factors? • How to combine with healthcare-seeking data <p><i>Moderated Group Discussion</i></p>
2:45	<p>Coffee Break</p>
3:00	<p>Modeling Approaches <i>Howard Burkom, JHU/APL, moderator, presenter</i> <i>Rosalind Eggo, London School of Hygiene and Tropical Medicine, presenter</i> <i>Kathy Ensor, Rice University, presenter</i> <i>Anna Buczak, JHU/APL, presenter</i> <i>Jon Levy, Boston University School of Public Health, presenter</i></p> <ul style="list-style-type: none"> • Basic concept • Past applications • Advantages, disadvantages, obstacles for exacerbation risk modeling in City of Boston with available data <p><i>Moderated Group Discussion</i></p>
4:30	<p>Group Discussion Determining utility, practicality, cost, timeliness, availability, and relevance.</p> <ul style="list-style-type: none"> • How can it be brought to bear on asthma? Are there other criteria? • Are there data sources that meet the criteria that we have not yet considered?
4:45	<p>Wrap-Up and Plan for Day 2</p>
5:00	<p>Adjourn</p>
6:30	<p>Group Dinner – Teranga Restaurant, 1746 Washington St, Boston, MA 02118</p>

Consultancy Day 2: March 31, 2016	
8:00	Continental Breakfast
8:30	Recap of Day 1 and Goals for Day 2 <i>Julia Gunn, BPHC</i>
9:00	Translating the Model <i>Margaret Reid, BPHC</i> <ul style="list-style-type: none"> • What is the utility of models for decision-making at different levels? • How would we communicate information to different audiences? • How will information be communicated to and used by different stakeholders? <p><i>Moderated Group Discussion</i></p>
9:30	Operationalizing the Model <i>Julia Gunn, BPHC, moderator</i> <i>George Mathew, MIT Lincoln Laboratory, presenter</i> <i>Karen Stark, Digital Infuzion, presenter</i> <ul style="list-style-type: none"> • How do we operationalize a model into an automated system? • System architecture • Informatics including what the output would look like • Privacy and security requirements • Performance metrics • Automated updating of the model <p><i>Moderated Group Discussion</i></p>
10:30	Break
10:45	Moderated Group Discussion <i>Julia Gunn, BPHC</i> <ul style="list-style-type: none"> • What do we need to build and what would it take? (e.g., money, time, technology) • Are there available resources? • BPHC data request procedures • Other Uses • Future Considerations
12:00	Next Steps and Closing <i>Laura Streichert, ISDS</i>
12:15	Working Lunch Meeting Hotwash and Open Discussion
1:30	Adjourn