



A National Center for Healthy Housing Webinar Presentation

Getting Ahead of Lead: Can Predictive Modeling Help Prevent Childhood Lead Exposure

Presenters: Rayid Ghani, Janna Kerins, Raed Mansour | Monday, November 25, 2019

Question	Answer
What are EHR and API?	[Answered in discussion.]
Why is birth certificate important? Does mother's age determine likelihood of poisoning? Or is the birth certificate for the kid?	[Answered in discussion by Raed Mansour and Rayid Ghani.]
How do you think federal agencies should leverage your work/scale your model?	[Answered in discussion by Raed Mansour.] I didn't think to mention this on the call, but I think that the most helpful ways that federal agencies could support this work is through increasing grant funding opportunities for proactive inspections and by connecting jurisdictions to resources to do this type of work. [Janna Kerins.]
How generalizable is this model to other cities? Small towns? Rural areas?	[Answered in discussion by Rayid Ghani.]

<p>Was this project led by CDPH, or was CDPH just a partner in this? I'm curious to know if there was pushback from the department to focus on reactive versus proactive work, and if so, how was that dealt with?</p>	<p>This was a collaboration. No one organization could have done this without the other partner. Technically, it was CDPH that was the lead organization when it came to grant management. [Raed Mansour.]</p> <p>I can't speak for the historical staff concerns, but currently, the biggest concern from staff has focused around two areas: (1) staff capacity for proactive inspections, since we're already understaffed; and (2) concern that we will penalize families by proactively inspecting homes.</p> <p>We have delegated proactive inspections to a single inspector and regularly check in with supervising inspectors to ensure the case load is not too high. We also do have safeguards in place that allow for adjusting the threshold at which the number of proactive inspections can be requested. [Janna Kerins, Raed Mansour.]</p> <p>We've been trying to mitigate concerns about penalizing families through education of the families at the time of referral (before an inspection takes place) and offering applications to apply for grant funding if hazards are found, but this is a work in progress. [Janna Kerins.]</p>
<p>How much did this cost? Who funded it?</p>	<ul style="list-style-type: none"> • The Schmidt Family Foundation funded the Data Science for Social Good fellowship for the proof-of-concept. • The Robert Wood Johnson Foundation funded the validation and the implementation. • U.S. HUD funded the CHW Research Study. • The MacArthur Foundation funded ideas42 staff for the CBO letter-writing campaign. • There was a lot of in-kind work done between all partners. [Raed Mansour.]
<p>Was there a positive cost-benefit six years in?</p>	<p>There will be papers publishing the results of the evaluations on this. [Raed Mansour.]</p>
<p>What was the takeaway? How many homes were inspected and remediated before a child was poisoned?</p>	<p>In progress. [Raed Mansour.]</p>
<p>Why did you look at kids 3 and under and not 6 and under?</p>	<p>[Answered in discussion by Rayid Ghani and Janna Kerins.]</p>

<p>Could you please review the list of five “rights”?</p>	<p>[Answered in discussion by Raed Mansour.] See link in presentation. [Raed Mansour.]</p>
<p>What was the takeaway? How many homes were inspected and remediated before a child was poisoned?</p>	<p>In progress. [Raed Mansour.]</p>
<p>Have you had any experiences with false negatives (for example, someone conducting DIY renovations in a place that had been designated “low risk” and poisoning a child)? What did your lawyers think about this scenario?</p>	<p>[Answered in discussion by Rayid Ghani and Janna Kerins.]</p>
<p>For the blood lead data going into the model, did you allow any test/sample type and adjust for the type? Or did you restrict to only venous/confirmatory tests?</p>	<p>Both capillary and venous tests were used in the model. [Janna Kerins.] Rayid, can you confirm if the model was adjusted for sample type? And also why both sample types were used? [Janna Kerins.] Rayid, please confirm. I recall we had issues with this because of the capillary confirmation test that didn’t give the amount of lead so the values were either positive or negative. [Raed Mansour.]</p>
<p>Re: WIC/birth certificate data, was there a problem with Census tract level data? Or were you looking at more granular than tracts?</p>	<p>We were looking at granular data – where kids and pregnant women lived and were at risk to lead paint exposure was the focus. [Raed Mansour.]</p>
<p>Any thought on stratifying risks score based on lower BLL (5-9) and focus interventions to prevent the conversion from non-case to cases?</p>	<p>I’m not sure if I’m interpreting this question correctly, but we have not stratified the risk scores based on BLL. The risk score from the model is based on an address, not a child, although it does take historical BLL data into account. Therefore, our intent is to use the model to focus on the highest risk addresses where non-cases live to prevent their conversion to cases. [Janna Kerins.]</p>

<p>Is the mobile lead inspection application a form or an app that resides on a tablet or smart phone?</p>	<p>LIA is a SQL-based form designed internally by the City of Chicago's Department of Innovation and Technology and CDPH. It was designed to be used on either a PC or tablet that are HIPAA compliant. [Raed Mansour.]</p>
<p>Since the model depends on historic data for prediction, do you/how do you deal with gentrification?</p>	<p>The model ideally should be retrained with updated data anywhere from quarterly to yearly depending on the amount off change in the data. [Raed Mansour.]</p>
<p>Can we get a copy of this presentation?</p>	<p>Yes! [Raed Mansour.]</p> <p>Links:</p> <p>Presentation: http://bit.ly/NCHHwbr1911 Annotated slides: http://bit.ly/NCHHwbr1911_slides Notes: http://bit.ly/NCHHwbr1911_notes Questions: http://bit.ly/NCHHwbr1911_questions Article: http://bit.ly/NCHHwbr1911_article1</p>