

Lead Compliance/ Exposure Analysis

Preliminary Results

RI Department of Health | The Providence Plan

Goals

- Determine level of CoC and Lead/Safe compliance
- Pinpoint where exposure is happening
- Provide actionable data

Property and Kid Data

- **Property Data** for City of Providence 2009
- Confirmed **blood lead level (BLL) tests**, 2005-2009

Compliance Data

- **HRC Certificates of Conformance (CoC)**
2004-2009
- **Health Lead Safe/Lead Free Certificates**
1995-11/2010

Initial Linkage Rates

- CoC: **96%**
- Lead Safe/Free: **90%**
- BLL Tests: **87.9%**

How Addresses are Linked to Plat/Lot

3 Kids at 166 Homer St



2 Kids at 168 Homer St



Address	Plat-Lot
166 Homer St	59-255
168 Homer St	59-255

“Master
Lookup
Table”



5 Kids at P/L **59-255**

Exempt v. Non-Exempt

Exempt

- Owner-occupied single, 2-3 family, and condo properties

Most owner-occupied

Exempt v. Non-Exempt

Non-Exempt

- Any property with 4+ units
- Rental single, 2-3 family, and condo properties (owner not resident)

Absentee Landlords

Compliance Rates by Land Use

Pre-1978 Residential Properties in Providence

Non-Exempt

	No	Yes	Total	% Comp
Single Family Rental	2,221	374	2,595	14%
2-5 Family Rental	4,305	2,033	6,338	32%
Apartments (6+ units)	310	171	481	36%
Condominium Rental	20	1	21	5%
Mixed Use Rental	534	130	664	20%
Total	7,390	2,709	10,099	27%

Exempt

	No	Yes	Total	% Comp
Single Family Owner-Occupied	9,862	379	10,241	4%
2-3 Family Owner-Occupied	5,224	1,286	6,510	20%
Condo Owner-Occupied	19	0	19	0%
Mixed Use Owner-Occupied <4 units	125	18	143	13%
Total	15,230	1,683	16,913	10%

Lead Test Methodology

- Use lookup table to **assign Plat/Lot** to addresses
- Find **unique instances of kids** at a specific property with one or more test by exposure range (5-9, 10+)
- **Count kids** by property in each exposure range

Children Exposed to Lead by Land Use

Pre-1978 Residential Properties in Providence

10 mcg/dL

10 or greater BLL- Non-Exempt

	Number of Children Exposed per Property									Total
	1+ Kids	%	0	1	2	3	4	5	6	
Single Family Rental	66	3%	2529	57	5	2	1	1	0	2,595
2-5 Family Rental	547	9%	5,791	427	91	21	6	1	1	6,338
Apartments (6+ units)	42	9%	439	30	8	3	1	0	0	481
Condominium Rental	1	5%	20	0	0	1	0	0	0	21
Mixed Use Rental	26	4%	638	21	5	0	0	0	0	664
Total Properties	682	7%	9,417	535	109	27	8	2	1	10,099
<i>Total Kids:</i>	882		0	535	218	81	32	10	6	

10 or greater BLL- Exempt

	1+ Kids	%	0	1	2	3	4	5	Total
Single Family Owner-Occupied	80	1%	10,161	70	8	1	1	0	10,241
2-3 Family Owner-Occupied	346	5%	6,164	283	49	9	3	2	6,510
Condo Owner-Occupied	0	0%	19	0	0	0	0	0	19
Mixed Use Owner-Occupied <4 units	5	3%	138	5	0	0	0	0	143
Total	431	3%	16,482	358	57	10	4	2	16,913
<i>Total Kids:</i>	528		0	358	114	30	16	10	

Determines the *scale of the problem*

Children Exposed to Lead by Land Use

Pre-1978 Residential Properties in Providence

5-9 mcg/dL

5-9 BLL- Non-Exempt

	Number of Children Exposed per Property											Total	
	1+ Kids	%	0	1	2	3	4	5	6	7	8		
Single Family Rental	273	11%	2322	214	50	7	2	0	0	0	0	0	2,595
2-5 Family Rental	1,703	27%	4,635	1128	384	114	48	21	6	1	1	1	6,338
Apartments (6+ units)	147	31%	334	80	38	14	10	3	2	0	0	0	481
Condominium Rental	2	10%	19	2	0	0	0	0	0	0	0	0	21
Mixed Use Rental	75	11%	589	52	13	6	3	1	0	0	0	0	664
Total	2,200	22%	7,899	1476	485	141	63	25	8	1	1	1	10,099
<i>Total Kids:</i>	3,309		0	1476	970	423	252	125	48	7	8		

5-9 BLL- Exempt

	1+ Kids	%	0	1	2	3	4	5	6	8	Total
Single Family Owner-Occupied	510	5%	9,731	445	52	12	1	0	0	0	10,241
2-3 Family Owner-Occupied	1,380	21%	5,130	955	290	80	37	13	4	1	6,510
Condo Owner-Occupied	1	5%	18	1	0	0	0	0	0	0	19
Mixed Use Owner-Occupied <4 units	12	8%	131	9	1	0	1	0	1	0	143
Total	1,903	11%	15,010	1,410	343	92	39	13	5	1	16,913
<i>Total Kids:</i>	2,631		0	1410	686	276	156	65	30	8	



Children Exposed to Lead by Compliance: West End

*Pre-1978 Residential
Properties in Providence*



Children Exposed to Lead by Compliance: Olneyville

Pre-1978 Residential Properties in Providence

Example Priority List

Properties with No Compliance History, Non-Exempt, with 3 or More Children Exposed 10+ mc/dL

Query Date: 2/10/2011

<u>Property Address</u>	<u>Plat-Lot</u>	<u>Owner Name</u>	<u>Owner Address</u>	<u>Owner City State Zip</u>	<u>CLASSCODE</u>	<u>Units</u>	<u>5-9</u>	<u>10+</u>
				Rehoboth MA 02769	Two to Five Family Residence	3	3	6
				Barrington RI 02806	Two to Five Family Residence	3	2	5
				PROVIDENCE RI 02905-2	One Family Residence	1	1	5
				WARREN RI 02885-4363	Two to Five Family Residence	2	1	4
				PROVIDENCE RI 02903-4	Two to Five Family Residence	3	1	4
				Providence RI 02909	Two to Five Family Residence	3	1	4
				Providence RI 02903	Apartments	6	1	4
				Providence RI 02907	Two to Five Family Residence	3	0	4
				PROVIDENCE RI 02909-2	One Family Residence	1	0	4
				South Grotton MA 01560	Two to Five Family Residence	5	0	4
				Providence RI 02907	Two to Five Family Residence	3	4	3
				RSE BRONX NY 10456-1218	Two to Five Family Residence	3	4	3
				Providence RI 02905	Two to Five Family Residence	3	3	3
				Providence RI 02907	Two to Five Family Residence	2	3	3
				Providence RI 02908	Two to Five Family Residence	3	3	3
				Warwick RI 02889	Two to Five Family Residence	3	3	3
				Warren RI 02885	Two to Five Family Residence	3	2	3
				PROVIDENCE RI 02905-1	One Family Residence	1	2	3
				PROVIDENCE RI 02909-2	Apartments	6	2	3
				Irving TX 75063	Two to Five Family Residence	4	1	3


Preliminary Findings

- Only 27% of Providence properties that should be compliant show any compliance at all
- A relatively small number of properties, both exempt and non-exempt, are exposing many children (*and flying below the radar*)

Preliminary Findings, cont.

- Non-exempt properties expose children at twice the rate as exempt
- Of the 1,410 children with exposure of 10+, 528 (37%) were on exempt properties
- Of the 5,940 children with exposure of 5-9, 2,631 (44%) were on exempt properties

Useful Products

- Summaries by exposure, land use, and exemption
- Clean data, methods 
- Priority lists of problem properties for Code Enforcement

f Children Exposed per Property

1	2	3	4	5	6	T
57	5	2	1	1	0	
427	91	21	6	1	1	
30	8	3	1	0	0	
0	0	1	0	0	0	
21	5	0	0	0	0	
535	109	27	8	2	1	
535	218	81	32	10	6	

Properties with No Complaint Status, Not Exempt, with 7 or More Children Exposed (R) and (R)

Property Address	Parcel	Area Code	Street Address	State/City/Zip	ELABORATION	Date	Id	Rs
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		
10000 N 100th St				IL	Exempt From Inspection	1/1/2011		

Current Limitations

- Analysis is not unit-based
- Need to do *temporal analysis*
- Compliance status is simplified- does not account for expired certificates

Good News!

- Lead Technical Study is overcoming these limits and expanding geography
 - Providence
 - Central Falls
 - Pawtucket
 - Woonsocket
- Rigorous methods, practical applications