

Fall 2011 Blood Lead Results



Participation Rates

Results

Environmental Conditions

Age Groups Targeted

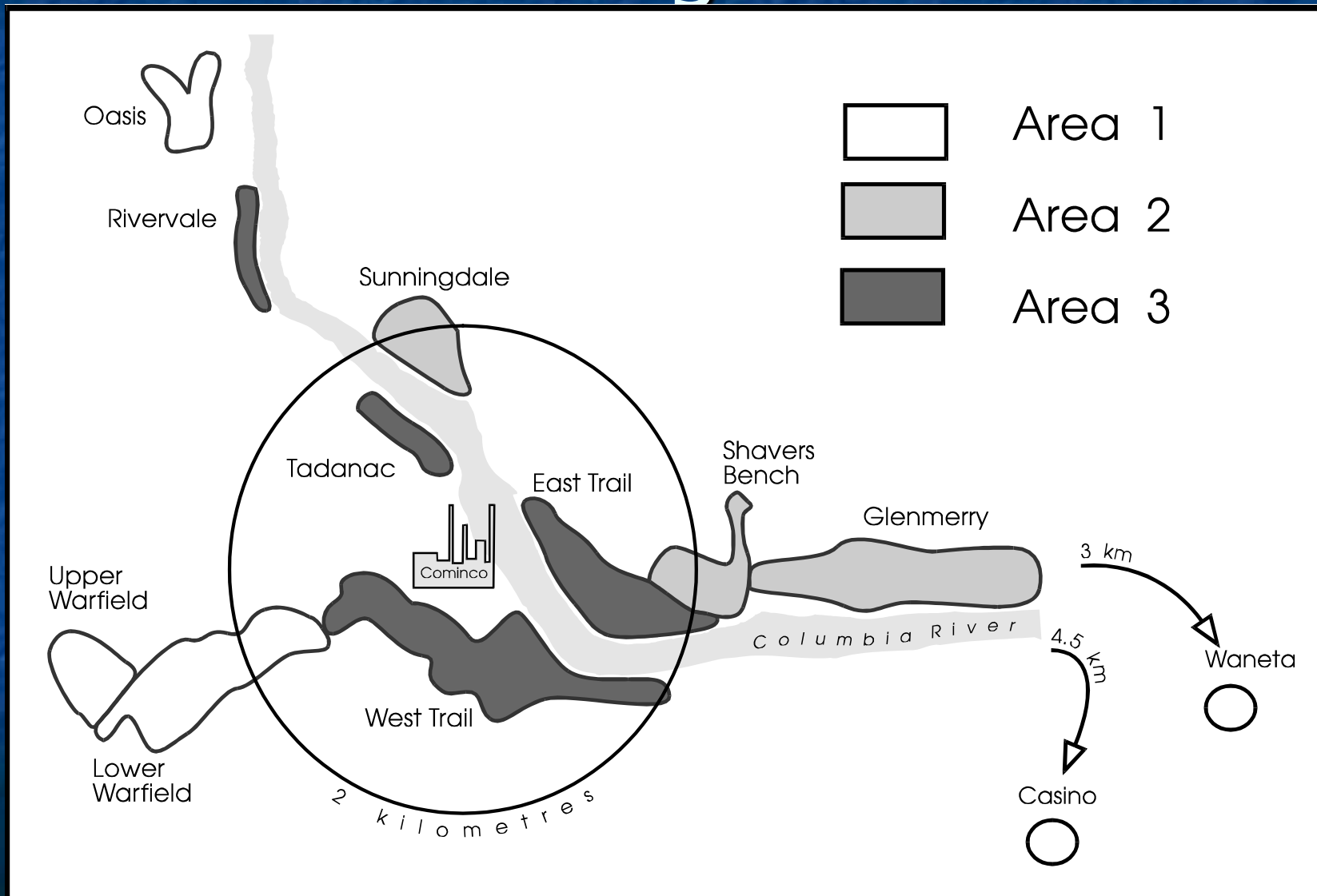
- 1991-2000: age 6-60 months
- 2001-2005: age 6-36 months
- 2006-2008: age 6-60 months
- 2009-2011: age 6-36 months



Who Was Tested in 2011?

- Target group:
 - Children aged 6-36 months, living in City of Trail or Rivervale (Area 2/3)
- Also:
 - New to area, up to age 5 yrs (60 mos)
 - Previous case management for follow-up

"Areas" & Neighbourhoods



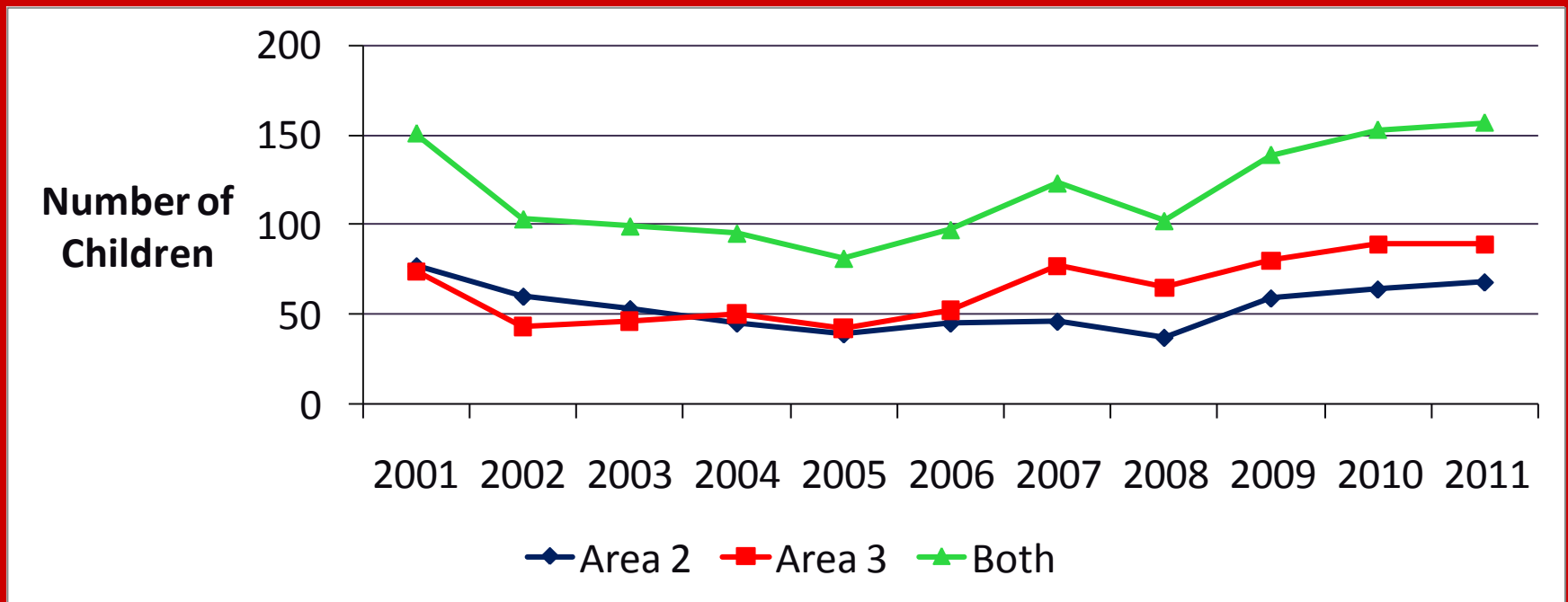


Fall 2011

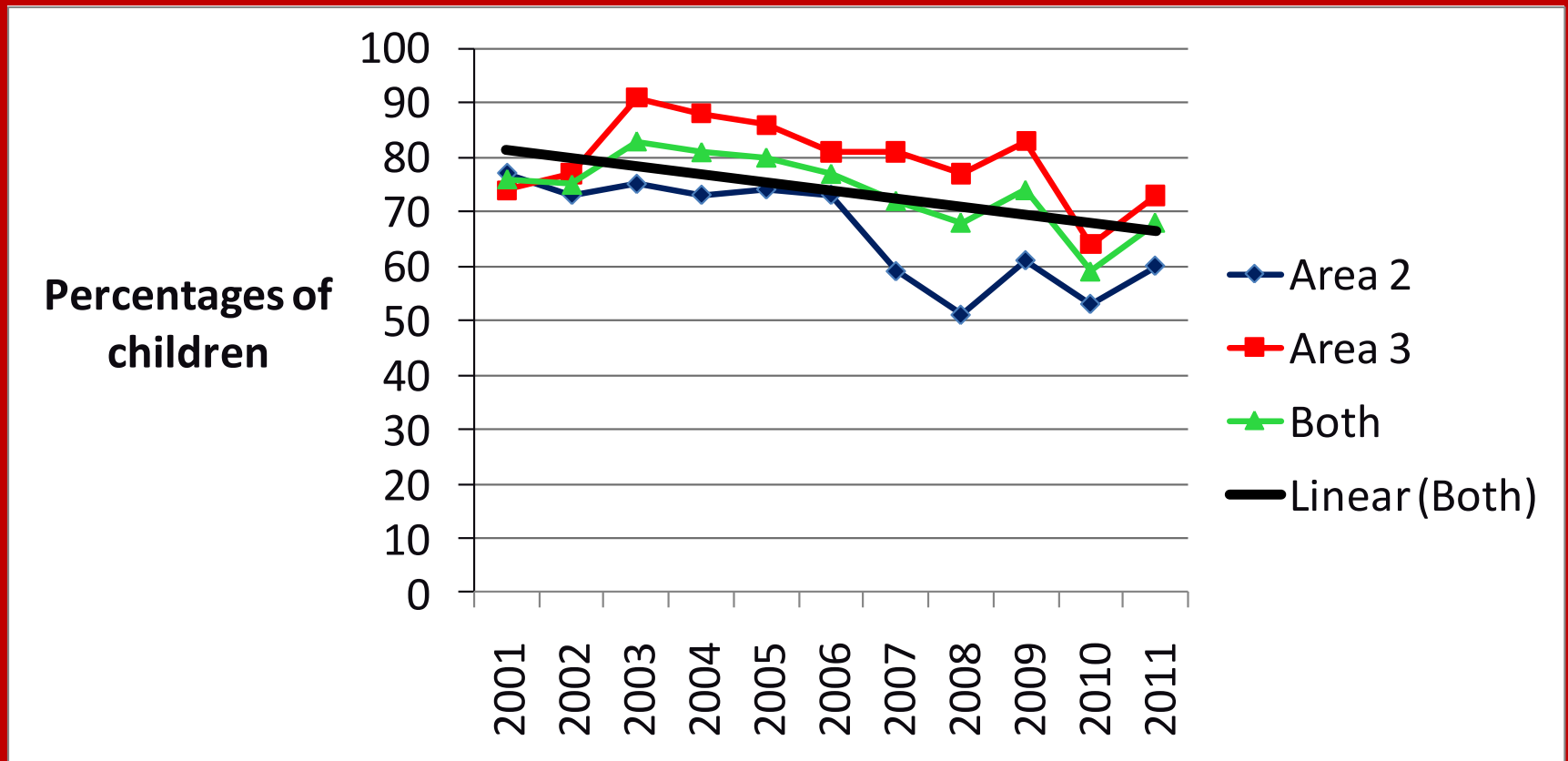
Participation By Neighbourhood

Participation for 2011 (Children under 3 years)				2010
Breakdown by Neighborhoods	# Children Contacted	# Children Participating	% Children Participating	% (No.) Participating
AREA 3 (Children <3 years)				(<3 years)
East Trail	32	24	75%	72% (23)
West Trail	49	34	69%	63% (32)
Tadanac	3	3	100%	50% (1)
Rivervale	5	4	80%	25% (1)
AREA 3 TOTAL	89	65	73%	64% (57)
AREA 2 (Children < 3 years)				(< 3 years)
Glenmerry	40	24	60%	50% (18)
Shavers Bench	10	5	50%	44% (4)
Sunningdale	18	12	67%	63% (12)
AREA 2 TOTAL	68	41	60%	53% (34)
AREA 2 & 3	157	106	68%	59% (91)

Changes since 2001: Where do Kids Live? (6-36 months)

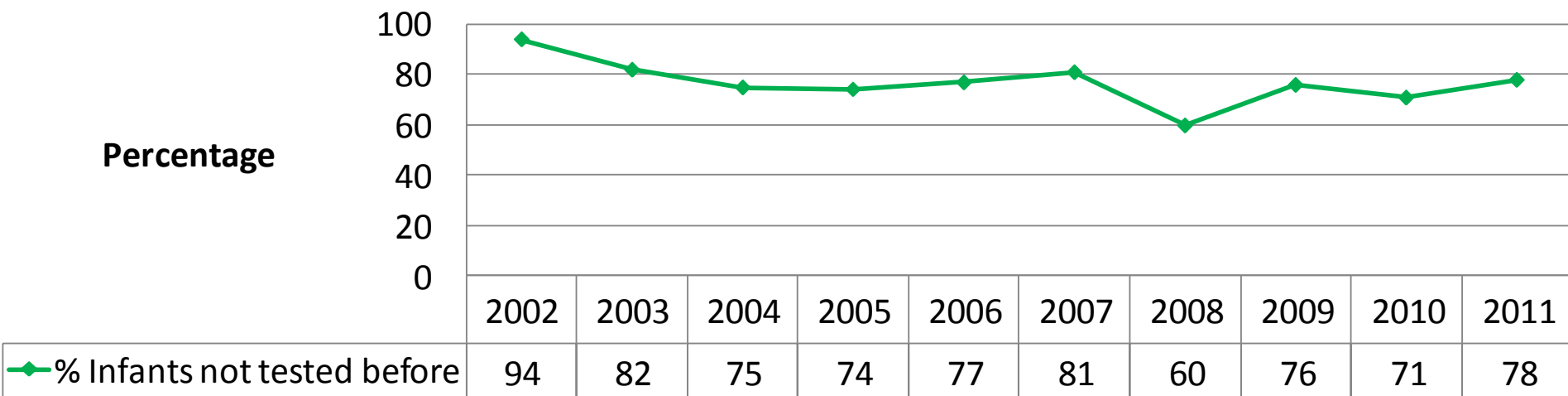


Percentages for participation by area and general trend

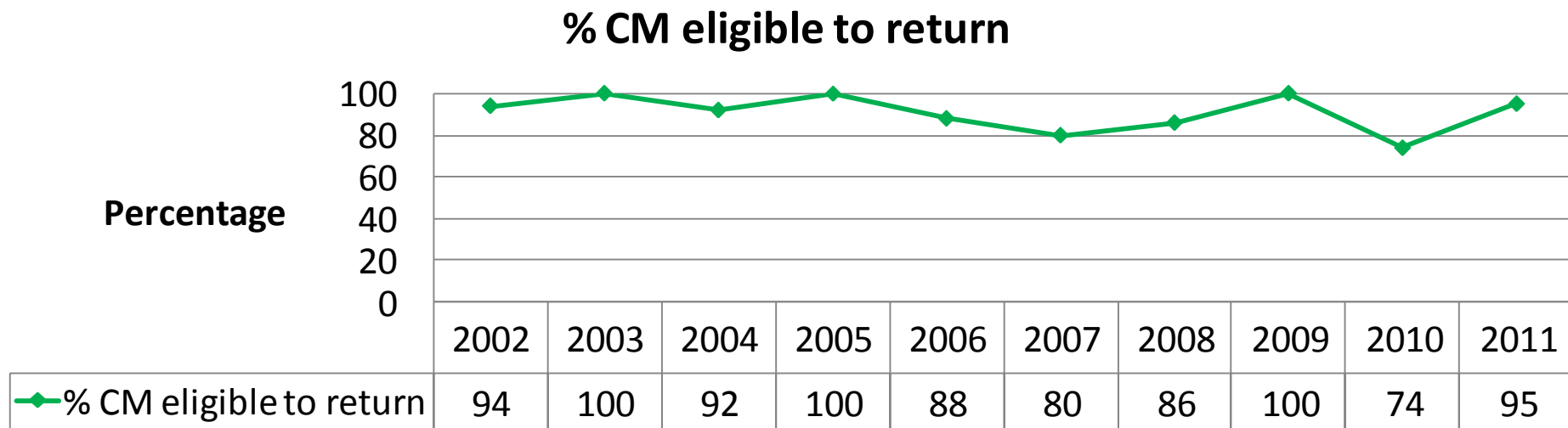


Participation Rate: Percentage of infants not tested before

Infants not tested before for areas 2 & 3

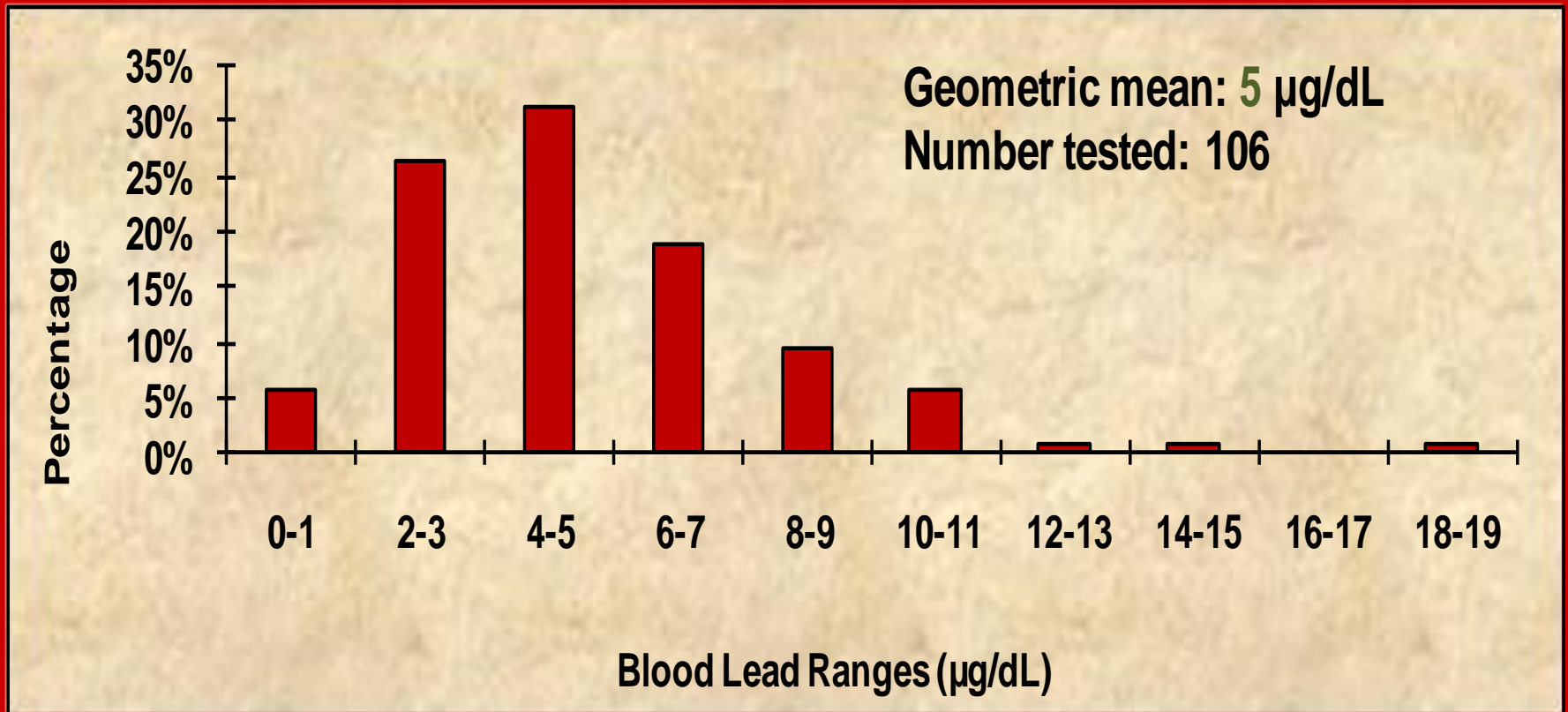


Participation: Percentage of CM children who returned for testing



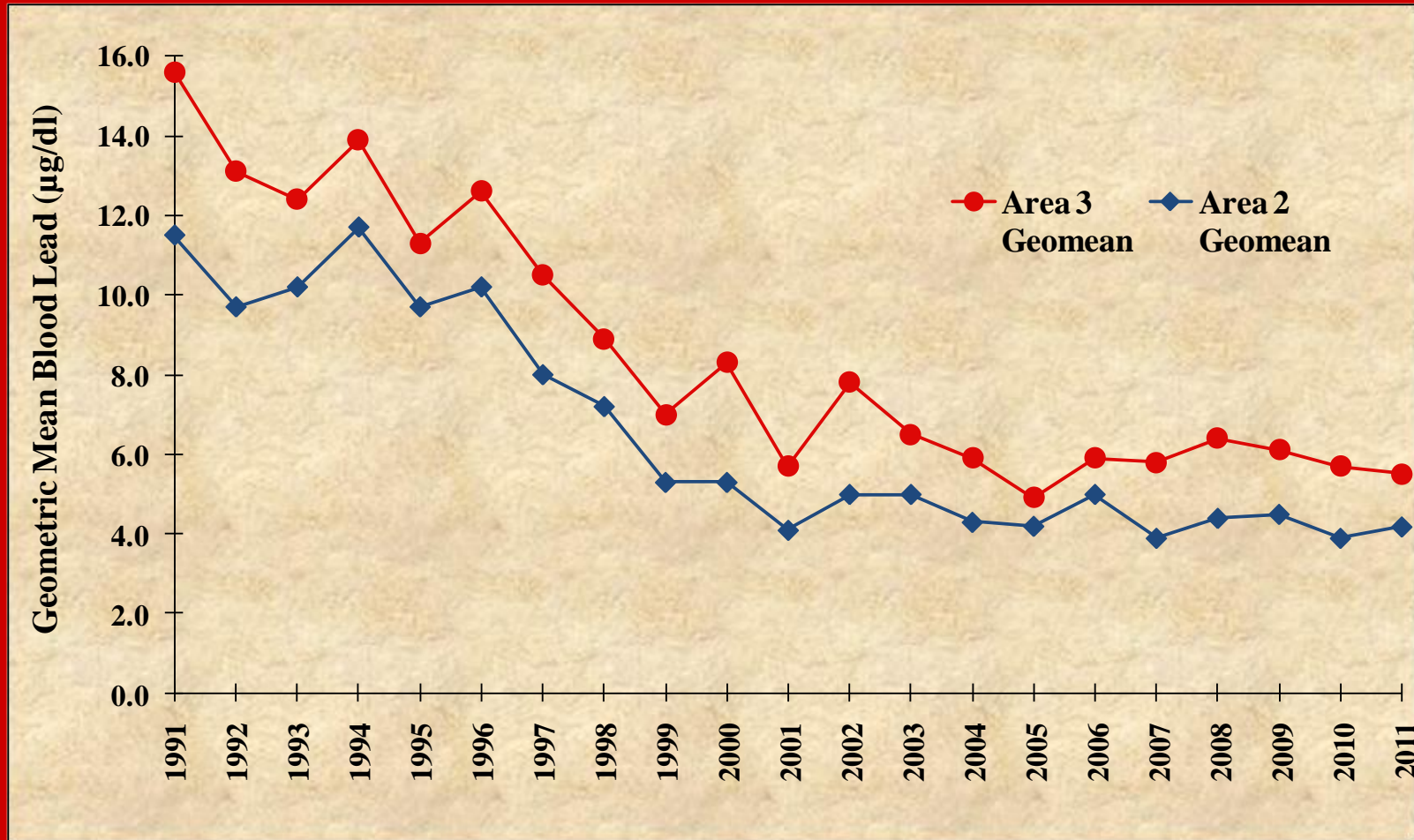
2011 Blood Lead Histogram: Area 2/3

(Age 6 mos. - 36 mos.)



Blood Lead Geo Mean by Area

(age 6 – 36 months throughout)



Area 2 & 3 Children under 3 yrs

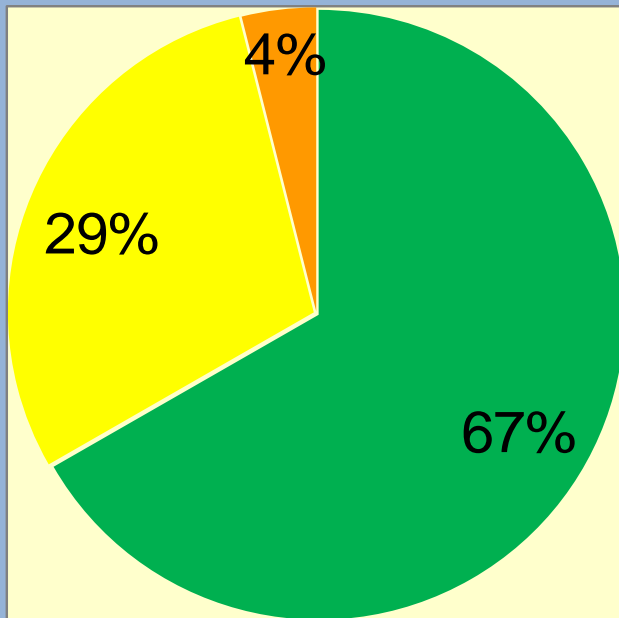
Statistic	2011	2010
Geometric Means		
Overall	5.0	4.9
Area 2	4.2	3.9
Area 3	5.5	5.7
Percentages at or Above:		
10 µg/dL	8%	12%
15 µg/dL	1%	1%
20 µg/dL	0%	0%

2011 Blood Leads (ug/dL) by Area

(Age 6 mos. - 60 mos.)

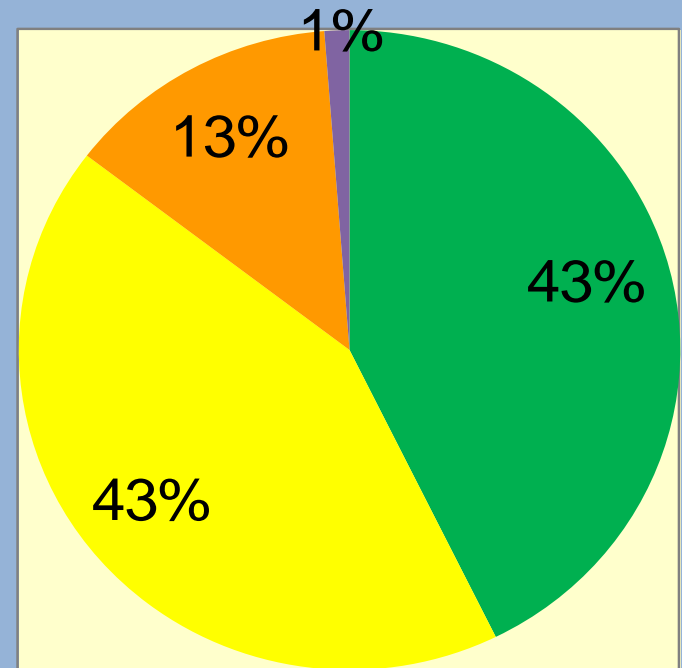
area 2

■ 0-4.9 ■ 5-9.9 ■ 10-14.9



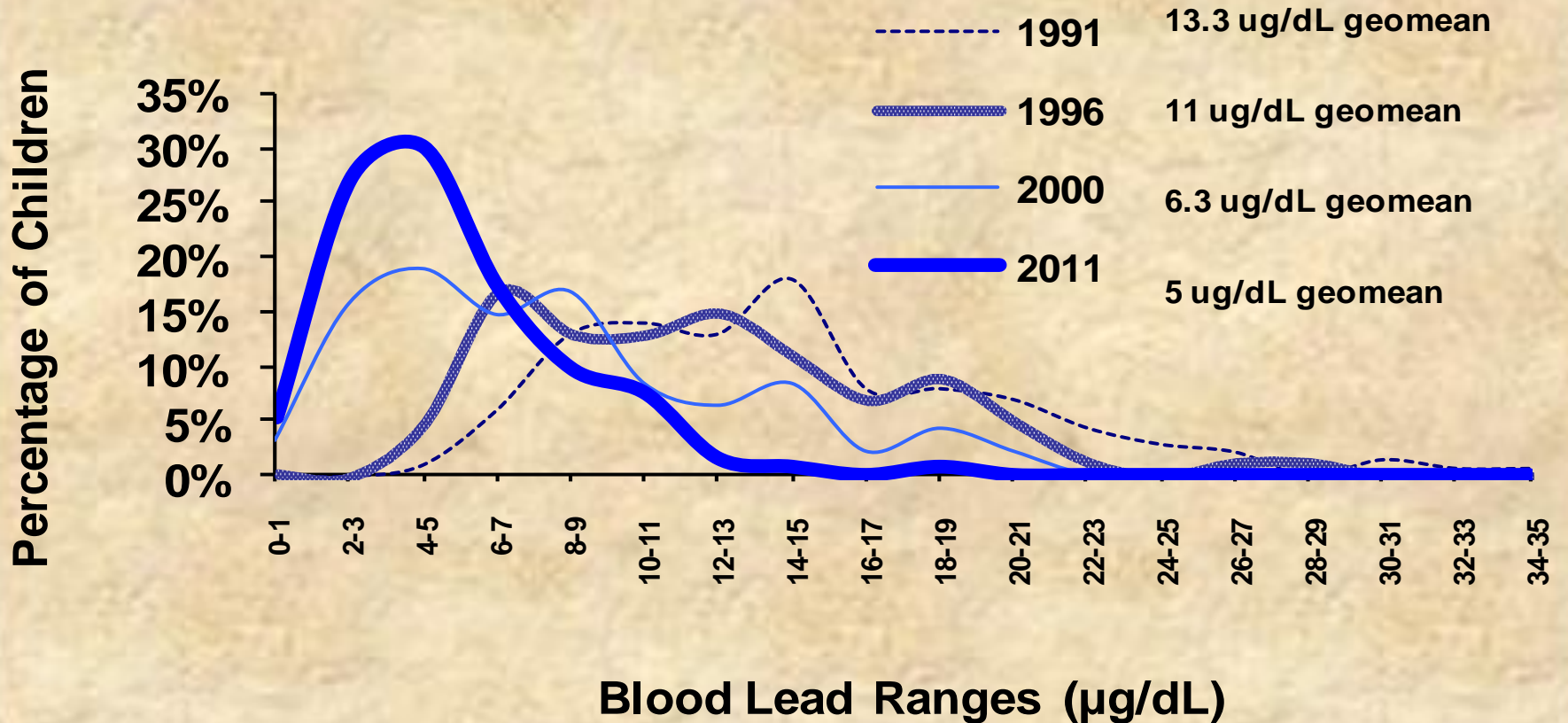
area 3

■ 0-4.9 ■ 5-9.9 ■ 10-14.9 ■ 15-19.9



1991-2011 shift

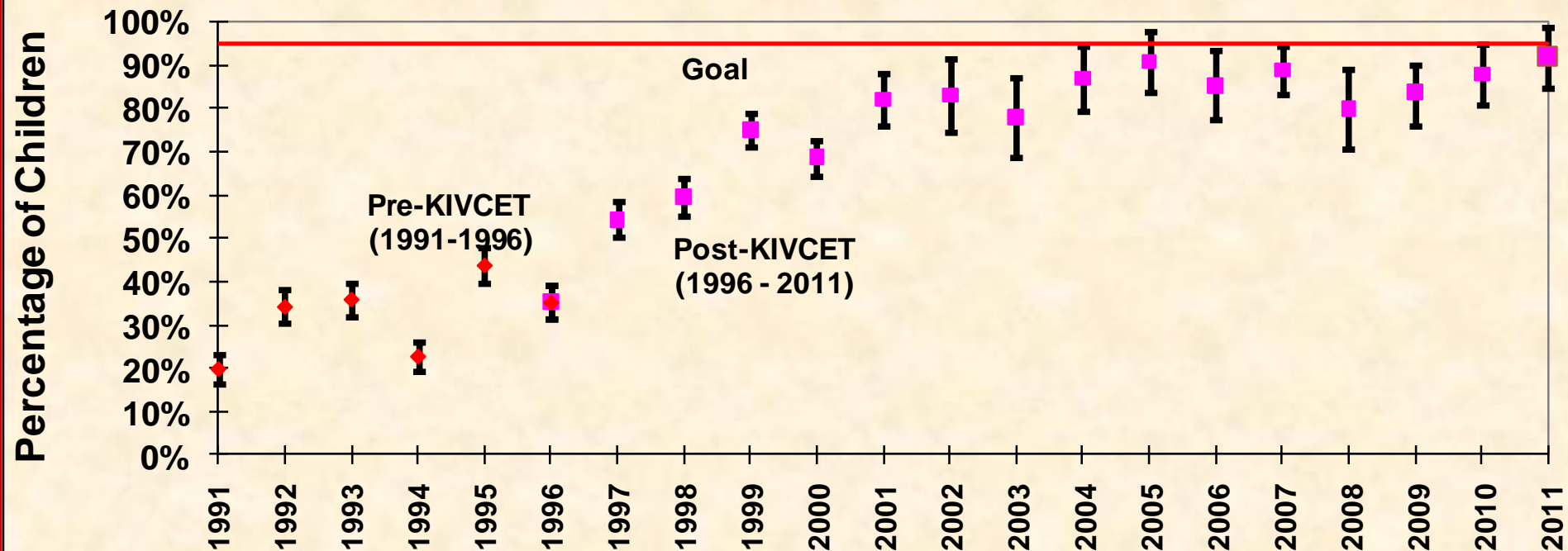
Areas 2 & 3: Children \leq 60 months



Goal for 2015

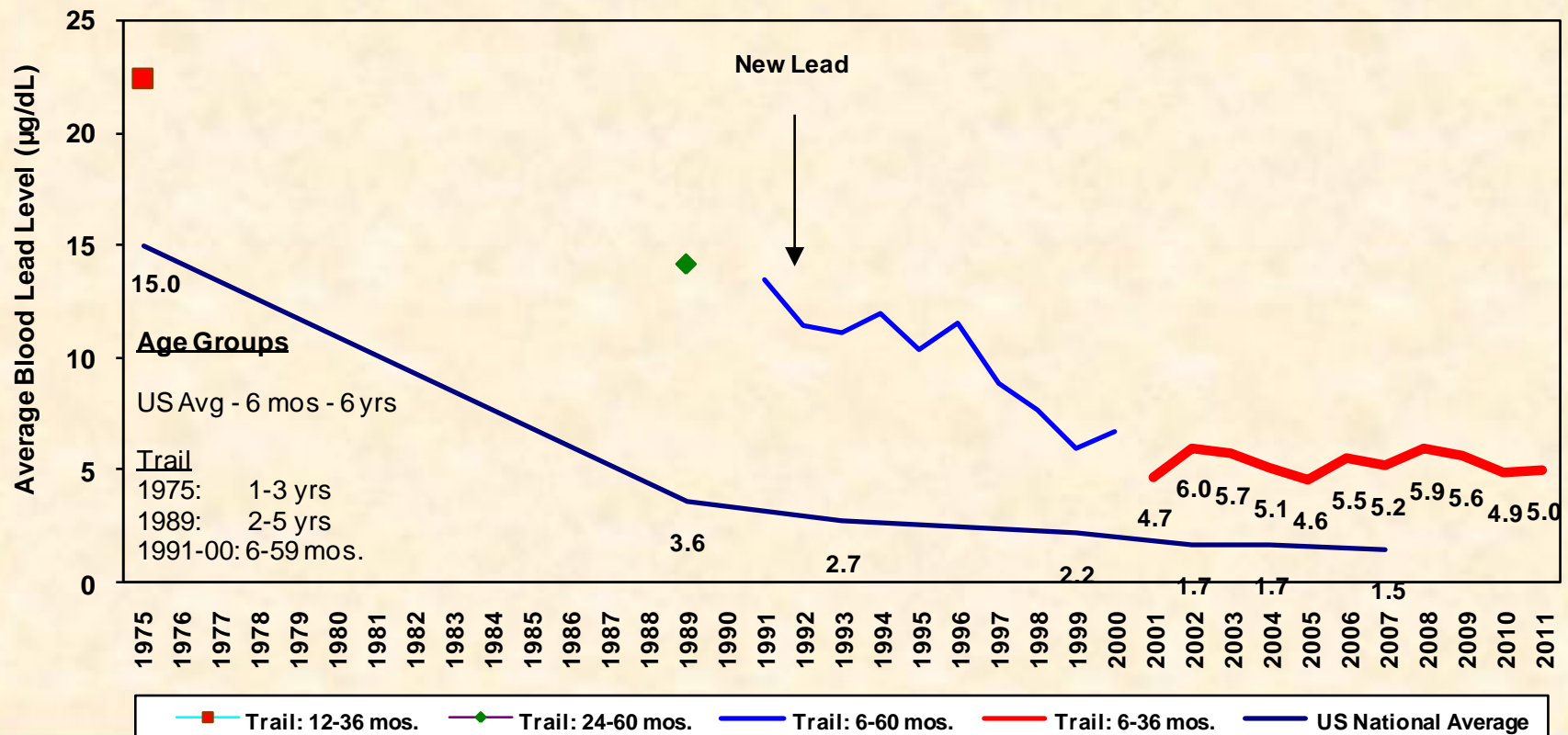
Percentage of Children with Blood Lead Levels < 10 $\mu\text{g}/\text{dl}$

(6-36 months throughout)



Comparison with "background"

History of Children's Blood Lead Levels in Trail

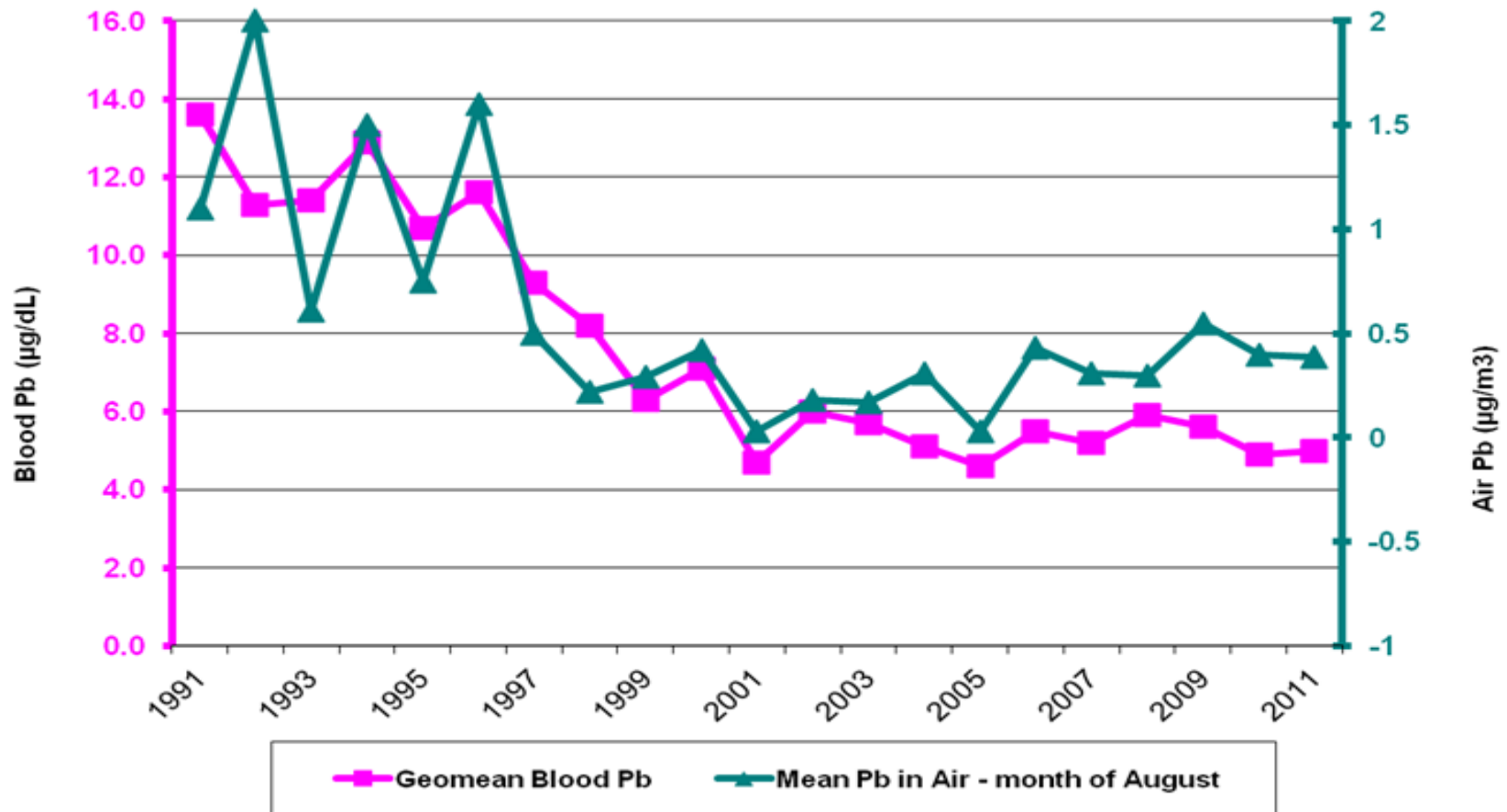


Comparison with Other Sites

City/Region	Country	Nature of site	Age of kids tested	Year	Blood Lead Level (µg/dL)
La Oroya	Peru	Primary Pb smelter	< 6 yrs	2007	20.0
Port Pirie	Australia	Primary Pb smelter	9 mos to 4 yrs	2005	10.6
Torreón	Mexico	Primary Pb smelter	1-3 yrs	2010	5-6?
Hoboken	Belgium	Secondary Pb smelter	2.5 yrs to 6 yrs	2009	6.9
Rouyn-Noranda	Canada	Primary Cu smelter	6 mos to 5 yrs	1999	5.2
Mount Isa	Australia	Primary Pb smelter/mine	1-4 yrs	2007	5.0
Trail	Canada	Primary Pb smelter	6 mos to 3 yrs	2011	5.0
Hamilton	Canada	Urban/city centre	under 6 yrs	2008	3.0
Nation-wide	U.S.A.	Urban/rural (NHANES)	1 to 5 yrs	2007	1.5

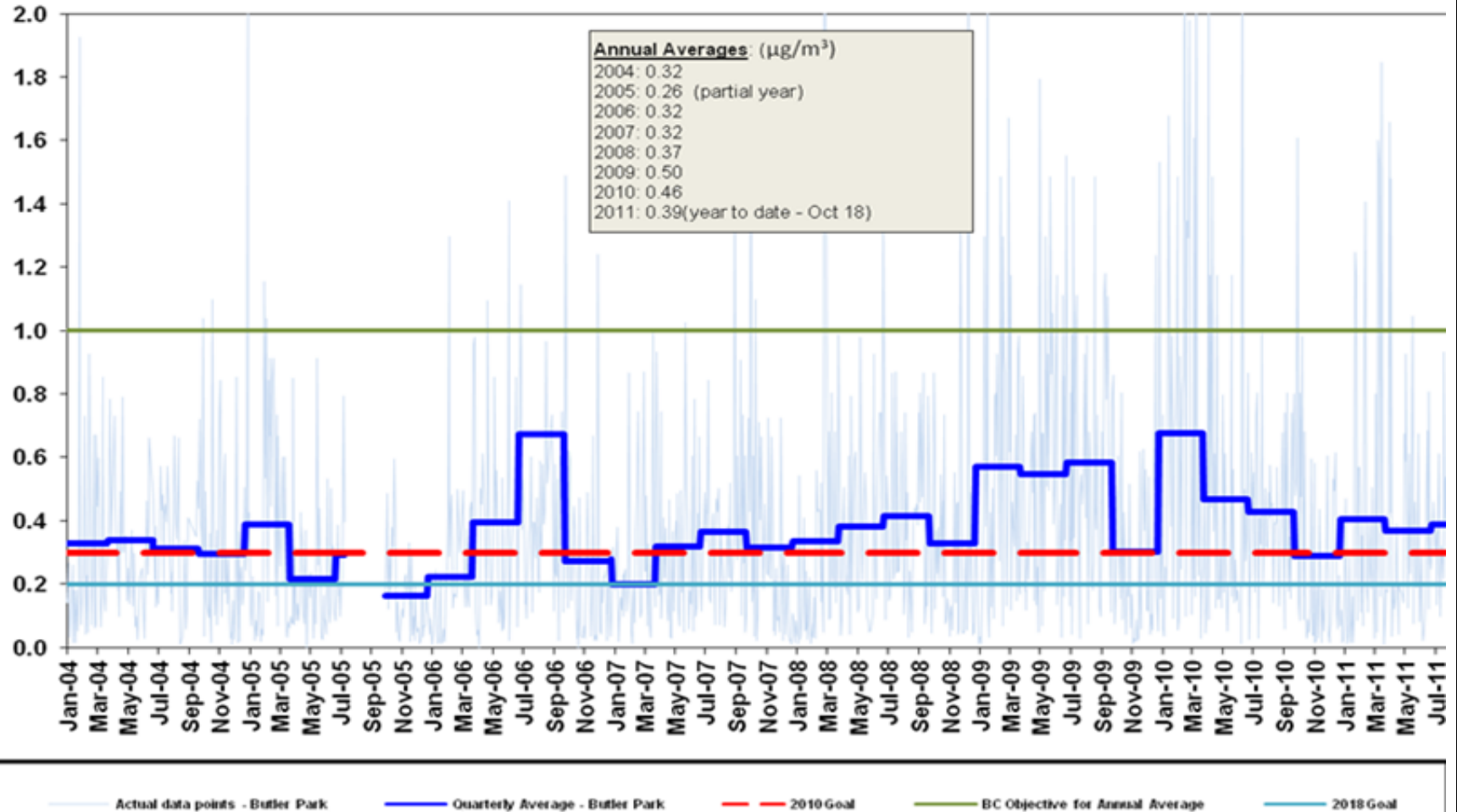
Air Pb/Blood Pb Relationship

Geomean Blood Pb for Trail Children aged 6-36 Months
and Air Pb in Month of August

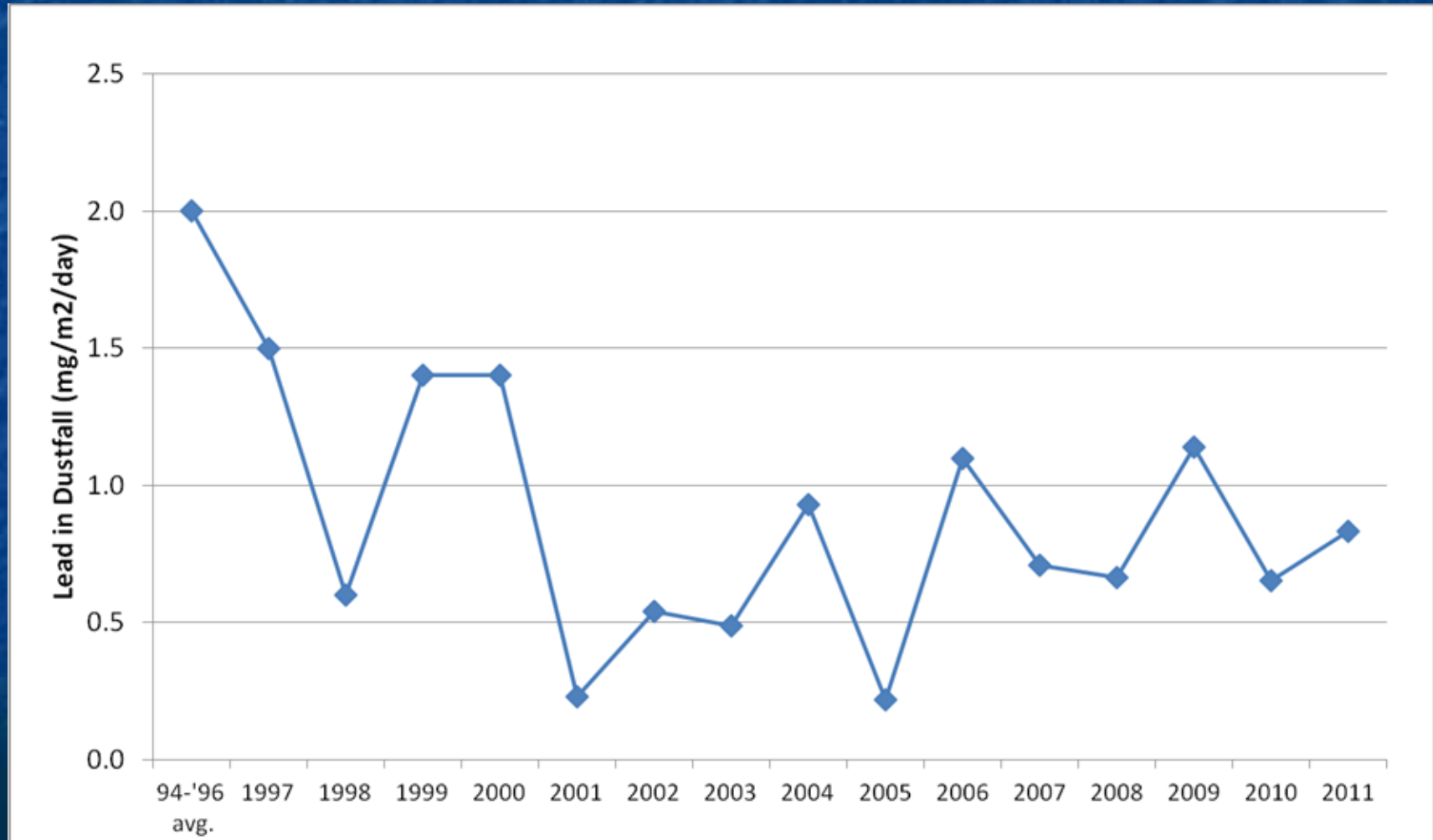


Air Lead Levels - Butler Park Stn

Butler Park - TSP Lead



Lead in Dustfall: Month of August Only, Area 2/3



Concluding messages

- Compared with last blood lead survey (2010), average blood lead in 2011 is not significantly changed.
- Late summer 2011 conditions were again warm and dry and the levels of lead in ambient air and dustfall were similar to 2010.
- The new THEP goal of having 95% of children with BLL of <10 ug/dL by 2015 is close to being reached. Currently we have 92% <10 ug/dL.
- The average blood lead level in Trail children is not changing significantly.

Concluding messages

- Huge improvement in children's blood lead levels over the past 20 years, and Trail is at the forefront of smelter communities in terms of low lead emissions and blood lead levels.
- Studies of large numbers of children have found that those with higher blood lead levels tend, on average, to score slightly lower on developmental tests than children with lower blood lead levels.
- Adverse effects associated with blood lead levels seen in children today are subtle, and an individual child's blood lead level is not the only predictor of his/her development

Concluding messages

- The current “level of concern” for blood lead levels in children is 10 $\mu\text{g}/\text{dL}$. However, there is no known threshold below which there is no effect.
- A significant percentage (more than 5%) of children greater than 10 $\mu\text{g}/\text{dL}$ should result in community investigation and intervention.
- Children with elevated blood lead ($\geq 10 \mu\text{g}/\text{dL}$ OR < 12 months age and $\geq 7 \mu\text{g}/\text{dL}$ OR increase $> 3 \mu\text{g}/\text{dL}$) will continue to receive home visits and assistance with reducing exposure.