

# Missouri Department of Elementary and Secondary Education, First Steps Program: Eligibility Review and Forecasting

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# Children with Developmental Delay

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- There are several issues that make the accurate comparison from state to state, as well as the determination of the number/percent of children with special health or education needs or developmental disabilities difficult to attain.
- ISSUES IMPACTING IDENTIFICATION AND COMPARISON OF CHILDREN WITH DEVELOPMENTAL DELAY:
  - Some parents often (30%) leave their child's health care maintenance visits with unresolved concerns about their child's development (Glascoe, 2001).
  - Some pediatricians rarely (20%) use formalized measures to aid in their developmental surveillance practices (Contompasis and Sabo, 1999).
  - Pediatric health practitioners desire to find and refer children in need of early intervention services, yet need more time efficient and reliable tools than are currently available (Contompasis and Reiss, 1999).
  - Variances among states regarding early intervention (EI) eligibility criteria.

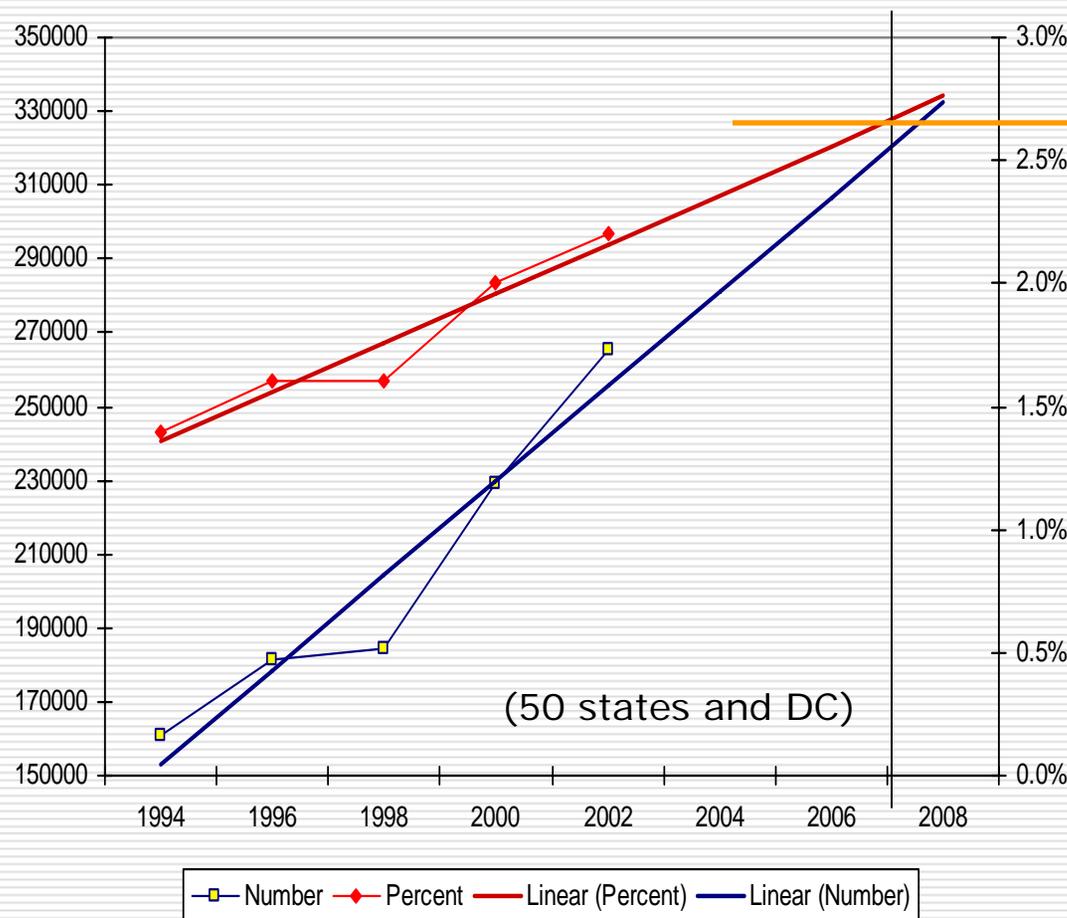
SOURCES: PEDI-Links – DEA Office of Special Education Programs (OSEP), 2003;  
The University of Vermont (an OSEP University Center of Excellence).

# Children served under IDEA, Part C

- ❑ Between 1994 and 2003, the number of children served under IDEA, Part C has increased steadily as each state's Part C system has matured.
- ❑ Percentage of infants and toddlers in US receiving early intervention services is estimated to be **2.6%** in 2007.
- ❑ Percentage was 2.4% in 2005.

SOURCE (1994-2003):  
OSEP 2004 Report to  
Congress.

Forecast (2004-2008):  
Philips and Associates.



# Eligibility Criteria

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## PERCENT OF ALL CHILDREN 0-2 RECEIVING SERVICES

- Three eligibility categories:
  - Broad
  - Moderate
  - Narrow
- Eligibility categories were established by the Office of Special Education Programs (OSEP).
  - Groups states with "*reasonably similar eligibility definitions.*"
  - Between 2003 and 2004, Missouri was moved from narrow eligibility category to [→] moderate eligibility category.

# Eligibility Grouping by State – 12/12005



## IDEA Part C Percentage of all children (including at risk) under the age of three receiving services 12/1/2005

= birth mandate  
 = at risk  
 = 2.40% national benchmark

### Broad Eligibility (N=27)

Hawaii	6.71
Massachusetts	5.90
Wyoming	4.31
West Virginia	4.28
New Mexico	3.73
Pennsylvania	3.31
Vermont	3.20
New Hampshire	2.96
Wisconsin	2.88
Maryland	2.88
Kansas	2.62
Virgin Islands	2.58
Ohio	2.47
Iowa	2.35
Arkansas	2.25
Michigan	2.20
California	1.99
Texas	1.93
North Carolina	1.85
Florida	1.80
Washington	1.79
American Samoa	1.79
Louisiana	1.76
Virginia	1.72
Northern Marianas	1.58
Alabama	1.39
Mississippi	1.34

### Moderate Eligibility (N=13)

New York	4.33
Rhode Island	4.09
Indiana	4.04
Illinois	3.00
Delaware	2.94
S Dakota	2.91
Puerto Rico	2.58
New Jersey	2.53
Kentucky	2.17
Alaska	2.09
Colorado	1.85
Minnesota	1.80
Missouri	1.47

### Narrow Eligibility (N=16)

Connecticut	3.16
N Dakota	3.02
Idaho	2.90
Maine	2.89
Montana	2.21
Oklahoma	2.03
Utah	1.87
S Carolina	1.87
Tennessee	1.80
Oregon	1.78
DC	1.68
Nebraska	1.67
Arizona	1.61
Guam	1.47
Nevada	1.36
Georgia	1.34

# Eligibility Grouping by State – 12/1/2003

## Broad Eligibility Criteria

Hawaii	7.70%
Massachusetts	5.92%
Indiana	3.62%
Wyoming	3.57%
Vermont	3.42%
Michigan	3.38%
Arkansas	3.30%
Pennsylvania	2.94%
Delaware	2.90%
New Mexico	2.89%
Maine	2.77%
West Virginia	2.73%
Wisconsin	2.66%
South Dakota	2.66%
New Hampshire	2.61%
Maryland	2.60%
Kansas	2.51%
Florida	2.28%
Iowa	1.95%
Ohio	1.81%
Minnesota	1.78%
Louisiana	1.75%
North Carolina	1.66%
Colorado	1.56%
Washington	1.56%
Mississippi	1.53%
Virginia	1.40%
Alabama	1.20%

## IDEA Part C

Percentage of all children under the age of three receiving services 12/1/2003 (includes at-risk)



## Moderate Eligibility Criteria

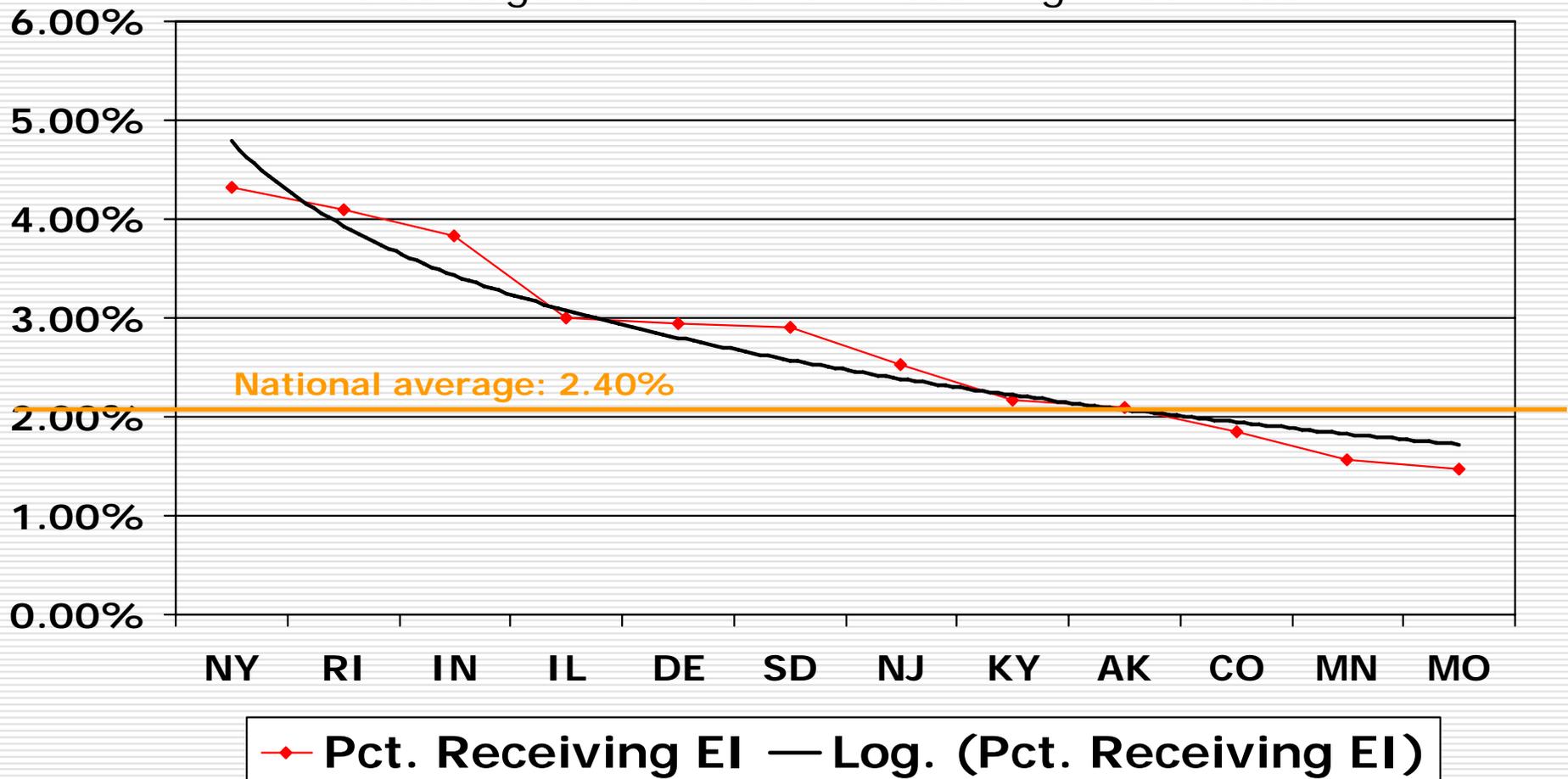
New York	4.42%
Rhode Island	3.48%
Connecticut	2.96%
Idaho	2.44%
Illinois	2.42%
Kentucky	2.37%
New Jersey	2.36%
Tennessee	1.81%
Texas	1.81%
California	1.76%
Nebraska	1.70%
Utah	1.69%
Oregon	1.38%
Georgia	1.19%
South Carolina	1.04%

## Narrow Eligibility Criteria

Oklahoma	2.24%
Alaska	2.17%
North Dakota	2.13%
Montana	1.96%
Missouri	1.51%
Arizona	1.35%
District of Columbia	1.13%
Nevada	0.94%

# Moderate Eligibility States – 12/1/2005

Percentage of children 0-2 receiving EI services.



SOURCE: ideadata.org (2005 data): excludes at risk children.

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## GAP ANALYSIS

*Gap analysis is computed as the difference between the prevalence measure for a variable and its current performance level. There are three key variables in this analysis:*

1. Very Low Birth Weight
2. Medical Conditions
3. Developmental Delay

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## GAP ANALYSIS

*There is a gap between the percentage of children being identified for early intervention services, and the percentage of children who will eventually be identified as having special health or education needs, or developmental disabilities.*

*This service gap is found in all states.*

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## GAP ANALYSIS

*There are three key variables in this analysis:*

1. Very Low Birth Weight
2. Medical Conditions
3. Developmental Delay

# Gap Analysis: Very Low Birth Weight

The prevalence measure (the percentage of population 0-2 with very low birth weight) is 0.51% -- a gap of 0.23%, or 533 Missouri children.

		Population of Children, 0-2 = 231,701					
Prevalence Measure		<i>Pct. of Pop. rec. EI</i>		<i>Number of Population</i>			
		MO First Steps	GAP	Based on Prevalence	MO First Steps	GAP	
percentage of infants born	Very Low Birth Weight	<b>0.51%</b>	<b>0.28%</b>	0.23%	1,182	649	<b>533</b>
	TOTAL ALL CATEGORIES <sup>1</sup> with DD 50% minimum	<b>1.70%</b>	<b>1.47%</b>	0.23%	3,939	3,406	533

<sup>1</sup> other categories kept at Missouri *actual* percent of children receiving EI services.

# Gap Analysis: Medical Conditions

The prevalence measure (the percentage of population 0-2 with stated medical conditions associated with DD) is 0.97% (adjusted) -- a gap of 0.46%, or 1,057 Missouri children. Missouri is estimated to be capturing about one-half of children with DD medical conditions.

Population of Children, 0-2 = 231,701							
Prevalence Measure	Pct. of Pop. rec. EI		Number of Population				
	MO First Steps	GAP	Based on Prevalence	MO First Steps	GAP		
Total reduced by .30 to account for overlap 1.7-2.0 per 1000 1yr. survivors 1.1 per 1000 10 year old children 6.8 per 10,000 10 year old children 10.2 per 1000 10 year old children	Total Medical Conditions	0.70	1.38%				
	<i>cerebral palsy</i>		0.17%				
	<i>hearing impairment</i>		0.11%				
	<i>legal blindness</i>		0.07%				
	<i>other mental retardation</i>		↑0.03%				
	<i>incl: autism, epilepsy</i>						
1 in 150 births (converted to 0-2 base) 6 per 1000 lifetime prevalence	<i>autism</i>		0.23%				
	<i>epilepsy</i>		0.60%				
MO experience used	Other Conditions		0.07%	0.07%	0.00%	162	162 0
	TOTAL ALL CATEGORIES with DD 50% minimum		1.93%	1.47%	0.46%	4,463	3,406 1,057

<sup>1</sup> other categories kept at Missouri *actual* percent of children receiving EI services.

SOURCES: cerebral palsy: emedicine.com; nih; hearing: nih; blindness: nih; other conditions: Metro Atlanta DD study (1992); autism: autism-society.org; epilepsy: nih. Missouri data: 2006/07. 12

# Gap Analysis: Developmental Delay

For states using 50% delay criteria, the weighted percent of children receiving EI is 1.67%.

## STATES with 50% DD required for eligibility

	Eligibility	Pop. 0-2	Receive EI	%
N. Dakota	narrow	22,881	691	3.02%
Alaska	moderate	30,718	642	2.09%
Oklahoma	narrow	148,621	3,017	2.03%
DC	narrow	24,107	405	1.68%
Arizona	narrow	276,398	4,450	1.61%
Missouri	moderate	231,701	3,406	1.47%
Nevada	narrow	104,191	1,417	1.36%
<b>TOTAL</b>		<b>835,215</b>	<b>13,978</b>	<b>1.67%</b>

SOURCE: ideadata.org, and MO First Steps

# Gap Analysis: Developmental Delay

For states utilizing 50% delay criteria, the weighted average percent of children receiving EI is 1.67%.

This calculates to a 0.20 gap between MO and weighted average (at 50% DD threshold), or 463 children (developmental delay only).

Population of Children, 0-2 = 231,701						
Prevalence Measure	Pct. of Pop. rec. EI		Number of Population			
	MO First Steps	GAP	Based on Prevalence	MO First Steps	GAP	
Developmental Delay 50% minimum	<b>0.81%</b>	<b>0.61%</b>	0.20%	1,877	1,413	<b>463</b>
TOTAL ALL CATEGORIES with DD 50% minimum <sup>1</sup>	<b>1.67%</b>	<b>1.47%</b>	0.20%	3,869	3,406	463

<sup>1</sup> other categories kept at Missouri *actual* percent of children receiving EI services.

**Appendix A** illustrates the potential effect of lowering developmental disability criteria below 50% (minimum).

# Gap Analysis: Combined Effect

If all gaps (very low birth weight, medical conditions, developmental delay) were closed between MO and prevalence measure, MO would serve 2.36% of children, or an additional 2,053 children (at 50% DD).

However, this service rate approaches the national average of 2.4% (slide 7) which is based on the broad range of eligibility criteria across all states.

*This indicates that a more realistic goal for Missouri might be less than 2.36%.*

Population of Children, 0-2 = 231,701					
Prevalence Measure	Pct. of Pop. rec. EI		Number of Population		
	MO First Steps	GAP	Based on Prevalence	MO First Steps	GAP
TOTAL ALL CATEGORIES with DD 50% minimum	<b>2.36%</b>	<b>1.47%</b>	0.89%	5,459	3,406 <b>2,053</b>

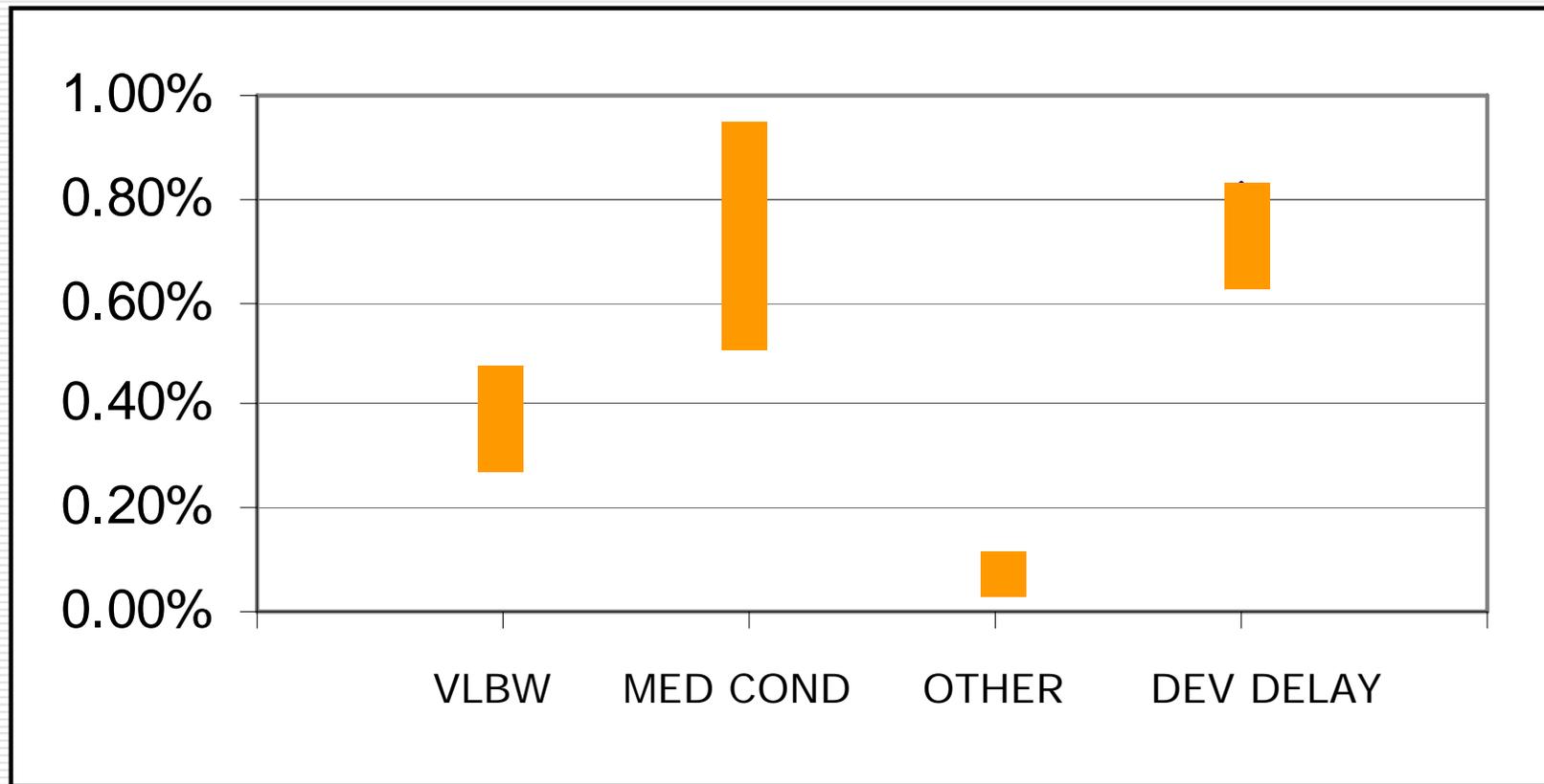
**Appendix A** illustrates the potential effect of lowering developmental disability criteria below 50% (minimum).

# Gap Analysis: Summary

(if all potential service gaps are closed).

	Prevalence Measure	Children receiving EI		
		Missouri	Gap %	Gap #
Very Low Birth Weight	0.51%	0.28%	0.23%	533
Medical Conditions	0.97%	0.51%	0.46%	1,057
Other Conditions	0.07%	0.07%	---	---
Developmental Delay	0.81%	0.61%	0.20%	463

# Missouri Goal Analysis: Setting Goal *Between* MO Actual and Prevalence Measure.



Prevalence Measure  
Missouri goal  
Missouri actual

# Missouri Goal Analysis: Rationale

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## Very low birth weight

- ❑ Very low birth weight in itself is not a strong factor for EI. While risks associated with VLBW are documented, the VLBW rate since 1980 has been driven by factors including increase in multiple births, Caesarean section deliveries, and overall improvements in technologies used to monitor at-risk pregnancies.

## Medical conditions

- ❑ The rate of medical conditions with *high probabilities of resulting in developmental delay* continues to be underreported. Missed identification is the result of a combination of unresolved parental concerns, and low rate of formalized pediatric measurement.

## Other conditions

- ❑ Documentation of other conditions known to be associated with developmental disabilities is initiated by practitioners.

## Developmental delay (DD)

- ❑ Criteria utilized for documentation of developmental delay and rate of developmental delay is wide ranging: broad, moderate, and narrow. The EI experience among states *utilizing same criteria* can be subjected to trend analysis which, in turn, can be used to identify expected rates of EI.

# Missouri Goal Analysis: Range Discussion

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- ❑ In order to provide broad incentive for achieving success, Missouri goals can fall into a range around the median projected goals for each category.
- ❑ Each defined range (next page) is consistent with the rationale for each category (previous page).
- ❑ The overall median range (Missouri goal: all categories) is 1.75% of children 0-2 years of age, or 649 additional children served.

# Gap Analysis: Missouri Goal Range

Category	Prevalence Measure	Percent of Children receiving EI		
		<i>Goal Range</i> Missouri	<i>Actual</i> Missouri	Gap
Very Low Birth Weight	0.51%	0.29%-0.33%	0.28%	23-116
Medical Conditions	0.97%	0.54%-0.64%	0.51%	70-301
Other Conditions	0.07%	0.07%	0.07%	0
Developmental Delay	0.81%	0.75%-0.81%	0.61%	324-463
TOTAL	2.36%	1.65%-1.85%	1.47%	417-880
MEDIAN	--	1.75%	--	649

# MO Goal Range

The following table shows the goal range by SPOE, after Missouri goals in the three areas are met. (DD at 50% minimum.)

Population of Children, 0-2 = 231,701											
	Prevalence Measure Missouri			Pct. of Pop. receiving EI				Number of Population			
	GOAL Range			MO	GAP Range			MO	GAP Range		
	LOW	MEDIAN	HIGH	First Steps	LOW	MEDIAN	HIGH	First Steps	LOW	MEDIAN	HIGH
TOTAL ALL CATEGORIES	<b>1.65%</b>	<b>1.75%</b>	<b>1.85%</b>	<b>1.47%</b>	<b>0.18%</b>	<b>0.28%</b>	<b>0.38%</b>	<b>3,406</b>	<b>417</b>	<b>649</b>	<b>880</b>
ALL REGIONS	1.65%	1.75%	1.85%	1.70%	-0.05%	0.05%	0.15%	341	0	10	30
3700 Northwest	1.65%	1.75%	1.85%	1.61%	0.04%	0.14%	0.24%	453	11	39	68
3800 Greater St. Louis	1.65%	1.75%	1.85%	1.64%	0.01%	0.11%	0.21%	646	4	43	83
3900 St. Louis County	1.65%	1.75%	1.85%	1.01%	0.64%	0.74%	0.84%	120	76	88	100
4300 Northeast	1.65%	1.75%	1.85%	1.38%	0.27%	0.37%	0.47%	510	100	137	174
4500 Greater Kansas City	1.65%	1.75%	1.85%	1.45%	0.20%	0.30%	0.40%	246	34	51	68
4600 Central	1.65%	1.75%	1.85%	1.08%	0.57%	0.67%	0.77%	157	83	97	112
4700 Southwest	1.65%	1.75%	1.85%	1.61%	0.04%	0.14%	0.24%	335	8	29	50
4800 South Central	1.65%	1.75%	1.85%	1.41%	0.24%	0.34%	0.44%	365	62	88	114
4900 East Central	1.65%	1.75%	1.85%	1.27%	0.38%	0.48%	0.58%	216	65	82	99
5000 Southeast											

SPOE data from 6/7/2007 First Steps Report. Rounding affects gap number of population.



**APPENDIX A**

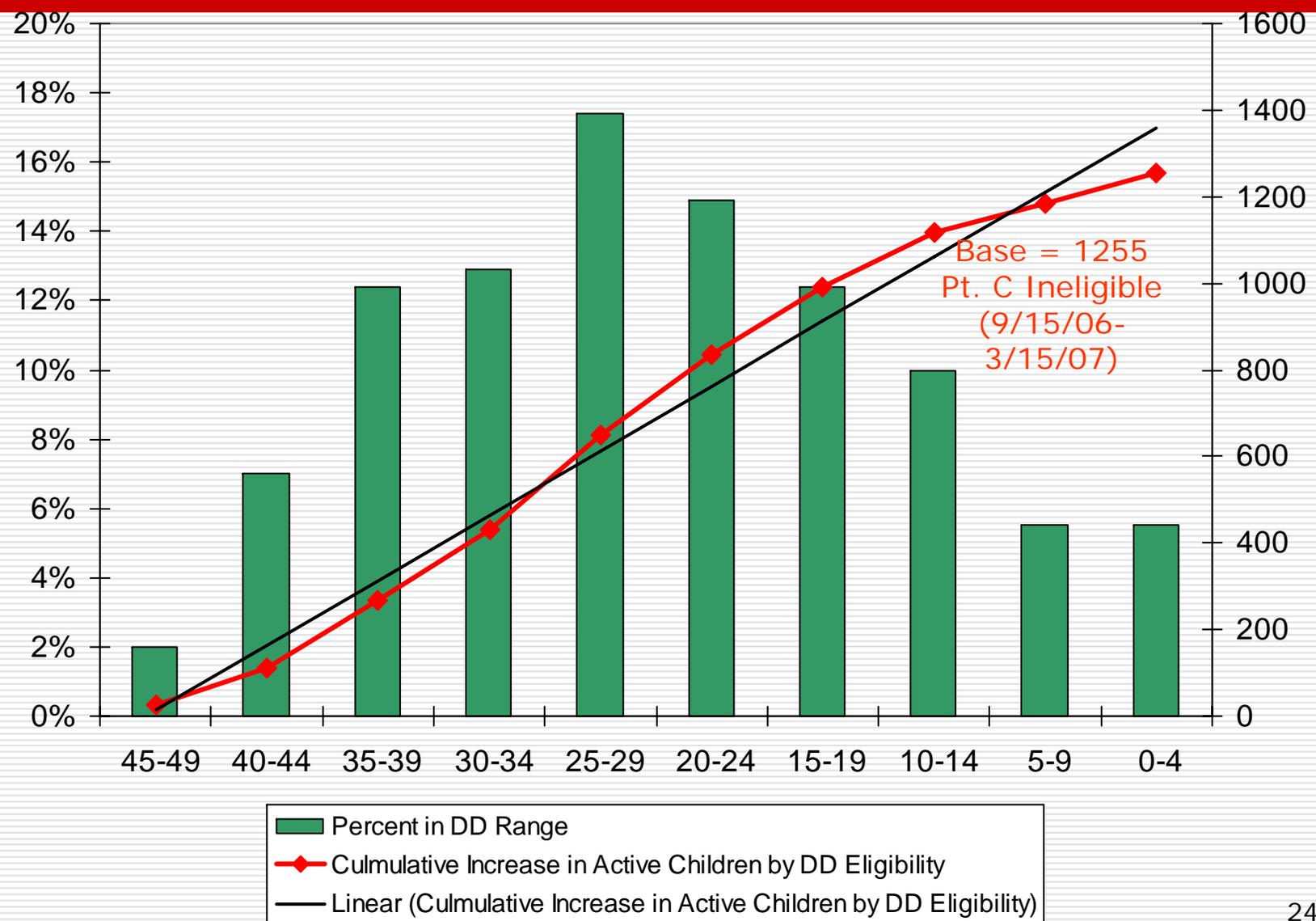
POTENTIAL EFFECT OF LOWERING DD CRITERIA  
BELOW 50%

# MO Developmental Delay Criteria <50%

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- Reduction of DD threshold criteria (now 50%) will result in increased number of active children in program:
  - *to a slight lesser or greater anticipated (linear) forecast.*
  - 30-49% DD            less than linear increase
  - 5-29% DD            greater than linear increase
  - 0-4% DD             less than linear increase
- Forecast model is based on sample data (201 records).
- Bar chart (next page) illustrates change at variable criteria less than 50%.
- Table (following bar chart) illustrates number of children after goals (range) in the three criteria (very low birth weight, medical conditions, developmental disability) are met.

# Additional Number of Active Children as variable of Change in Developmental Delay Pct. Criteria



# MO Goal Range (variable DD criteria)

The following table shows the potential effect of lowering the delay criteria below 50%, after Missouri goals (range) in the three key areas are are met.

Population of Children, 0-2 = 231,701											
	Prevalence Measure Missouri			Pct. of Pop. receiving EI MO				Number of Population MO			
	GOAL Range			First Steps	GAP Range			First Steps	GAP Range		
	LOW	MEDIAN	HIGH		LOW	MEDIAN	HIGH		LOW	MEDIAN	HIGH
TOTAL ALL CATEGORIES with DD 50% minimum	<b>1.65%</b>	<b>1.75%</b>	<b>1.85%</b>	<b>1.47%</b>	<b>0.18%</b>	<b>0.28%</b>	<b>0.38%</b>	<b>3,406</b>	<b>417</b>	<b>649</b>	<b>880</b>
45-49%	1.67%	1.77%	1.87%	1.48%	0.19%	0.29%	0.38%	3,434	435	662	890
40-44%	1.72%	1.82%	1.92%	1.52%	0.20%	0.30%	0.40%	3,533	452	687	922
35-39%	1.81%	1.92%	2.02%	1.60%	0.21%	0.32%	0.42%	3,708	485	732	980
30-34%	1.91%	2.02%	2.13%	1.68%	0.23%	0.34%	0.45%	3,891	535	787	1,039
25-29%	2.04%	2.15%	2.27%	1.79%	0.25%	0.37%	0.48%	4,137	590	855	1,120
20-24%	2.15%	2.27%	2.39%	1.88%	0.27%	0.39%	0.51%	4,347	634	912	1,189
15-19%	2.24%	2.36%	2.49%	1.95%	0.29%	0.41%	0.54%	4,523	668	957	1,247
10-14%	2.32%	2.45%	2.57%	2.01%	0.31%	0.43%	0.56%	4,664	712	1,002	1,293
5-9%	2.36%	2.49%	2.62%	2.05%	0.31%	0.44%	0.57%	4,742	726	1,022	1,318
1-4%	2.40%	2.53%	2.66%	2.08%	0.32%	0.45%	0.58%	4,819	741	1,043	1,344

DD factors based on sample of MO First Steps records (n=201).