Eligibility Review & Forecasting

Excerpts from Study Conducted by
Philips & Associates, Inc.

August 2018

Previous Studies

- Similar eligibility review and forecasting studies were conducted in 2007 and 2012, both projecting an **increase** in the number of children potentially served by Missouri's First Steps Program.
  - In 2007, First Steps was serving an average of 1.47% of the population, and projected to serve between 1.65% and 1.85%.
  - In 2012, First Steps was serving an average of 2.28% of the population, and projected to serve between 2.35% and 2.45%.

Rationale For This Study

- To provide a five-year forecast of children potentially served by Missouri's First Steps Program.
- To support the service forecasts, based on a review of recent studies regarding trends in clinical, social, and educational perceptions of children with Individualized Family Service Plans (IFSPs).
- To provide rationale for future caseload levels for service coordinators, based on projected child counts.

Study Parameters

- Data reflect children eligible for and receiving IFSP services from Missouri's First Steps Program, and does **not** include the number of children referred or evaluated.
- Data reflect the number of children in IFSP status on a particular day/month, and does **not** include a cumulative count of all children served.
- Population estimates based on information from the National Center for Health Statistics (NCHS).
- Primary data source was the SPOE Data Report, a monthly report compiled and published by DESE. The most recent 12 months of data reports are available online.

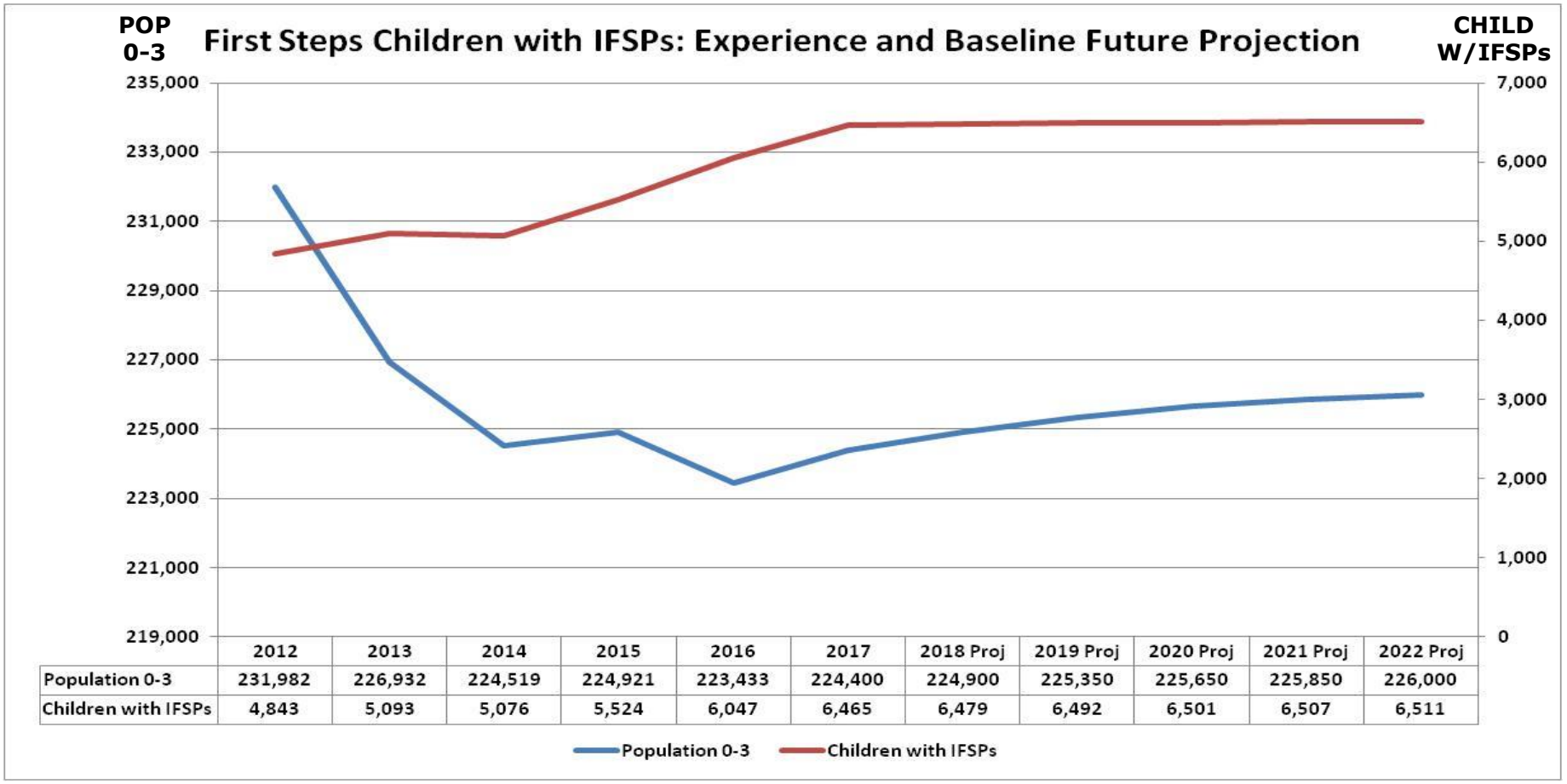
Key Definitions

- **Plateau Forecast:** refers to a growth rate that aligns with a change in population.
- **Reach Forecast:** refers to the high side of a forecast range for growth rate.
- **Average Annual Change:** calculated using a compound monthly growth rate formula (CMGR), which provides more emphasis on five-year growth rate and less emphasis on often volatile year-to-year variation. Provides for more conservative forecasting.

A Note About Referrals

- The rate of screening for developmental delay increased 19%-29% between 2007 and 2012. *(Screening and Risk for Developmental Delay, childtrends.org, July 2013)*
- Federal goals are to increase the number of young children who are screened, evaluated, and enrolled in early intervention services. *(Healthy People 2020, MICH-29 and EMC-2.4)*
- More pediatricians making referrals for children with concerns in developmental delay/screening. Conditions for referral from 2012-2016 (ranked by greatest change) were: global developmental delays, delayed speech/language, sensory impairment, motor delay, loss of developmental milestones. *(Referral Trends of Young Children Screened for DD and Autism, Pediatric Academic Society Annual Meeting, 2017)*

0 – 3 Population (Missouri and First Steps)



	2012	2013	2014	2015	2016	2017	2018 Proj	2019 Proj	2020 Proj	2021 Proj	2022 Proj
Population 0-3	231,982	226,932	224,519	224,921	223,433	224,400	224,900	225,350	225,650	225,850	226,000
Children with IFSPs	4,843	5,093	5,076	5,524	6,047	6,465	6,479	6,492	6,501	6,507	6,511

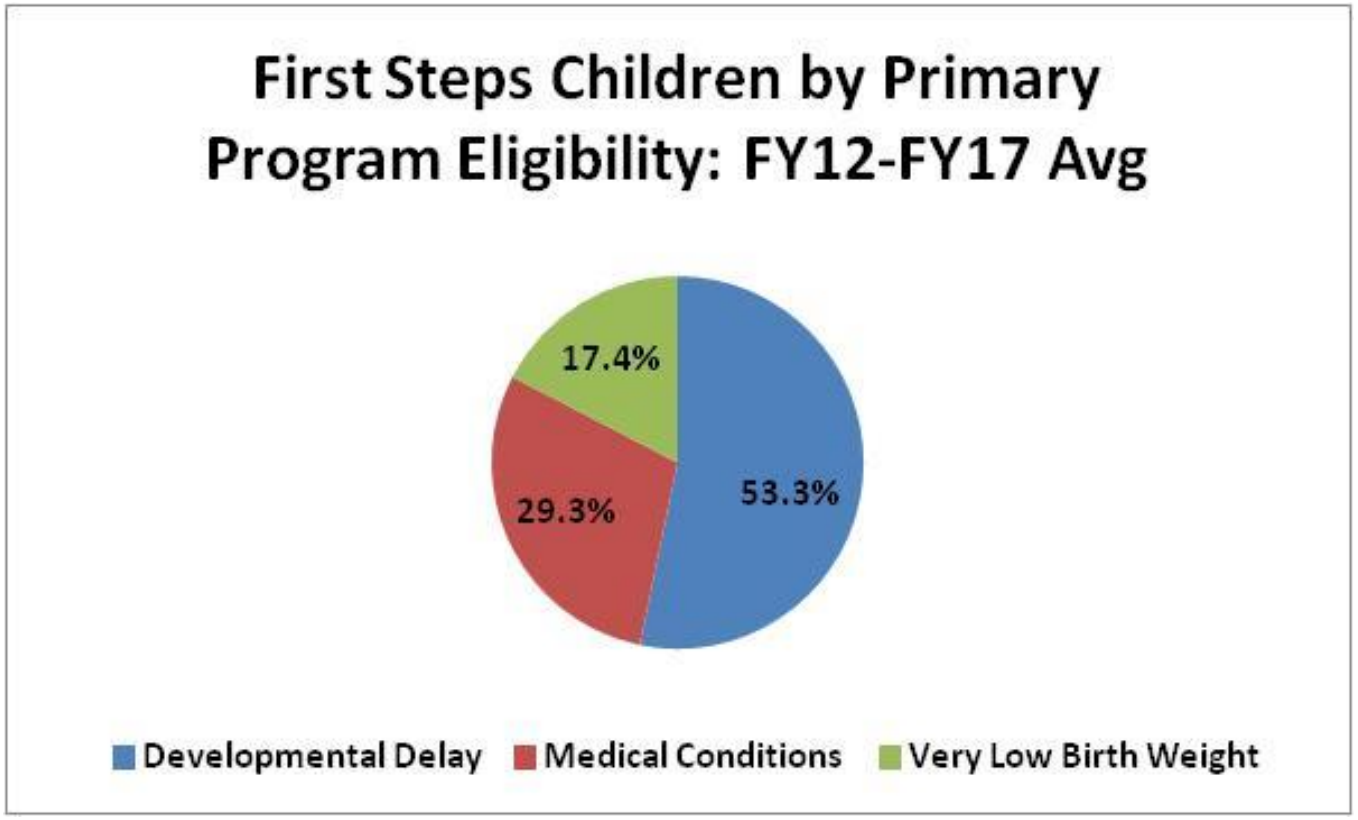
SOURCES: FS Trend Data FY11-FY16 *Eligibility Reasons* and *Active Children (includes MO population (0-3)* internal report (Feb. 1 counts); projected data: NCHS Estimates and Philips & Associates projections.

First Steps Eligibility Criteria

- Newborn Conditions
  - Birth weight less than 1,500 grams and one or more of the following present at birth: APGAR 6 or less @ 5 minutes, intraventricular hemorrhage (Grade II, III, IV), any positive pressure ventilation > 48 hours, resuscitation/code-event requiring chest compressions
- Medical Conditions
  - Condition associated with developmental disabilities such as: autism, chromosomal trisomy, other chromosomal abnormalities, craniofacial anomalies, disorders of the nervous system, exposure to toxic substances, infections/viruses/bacteria, other genetic/congenital/metabolic conditions, sensory impairments, severe attachment disorders
- Developmental Delay
  - Half-age delay in one or more developmental domains: adaptive, cognition, communication, physical, social-emotional

https://dese.mo.gov/special-education/first-steps/eligibility

Eligibility Categories



Category 1: Very Low Birth Weight

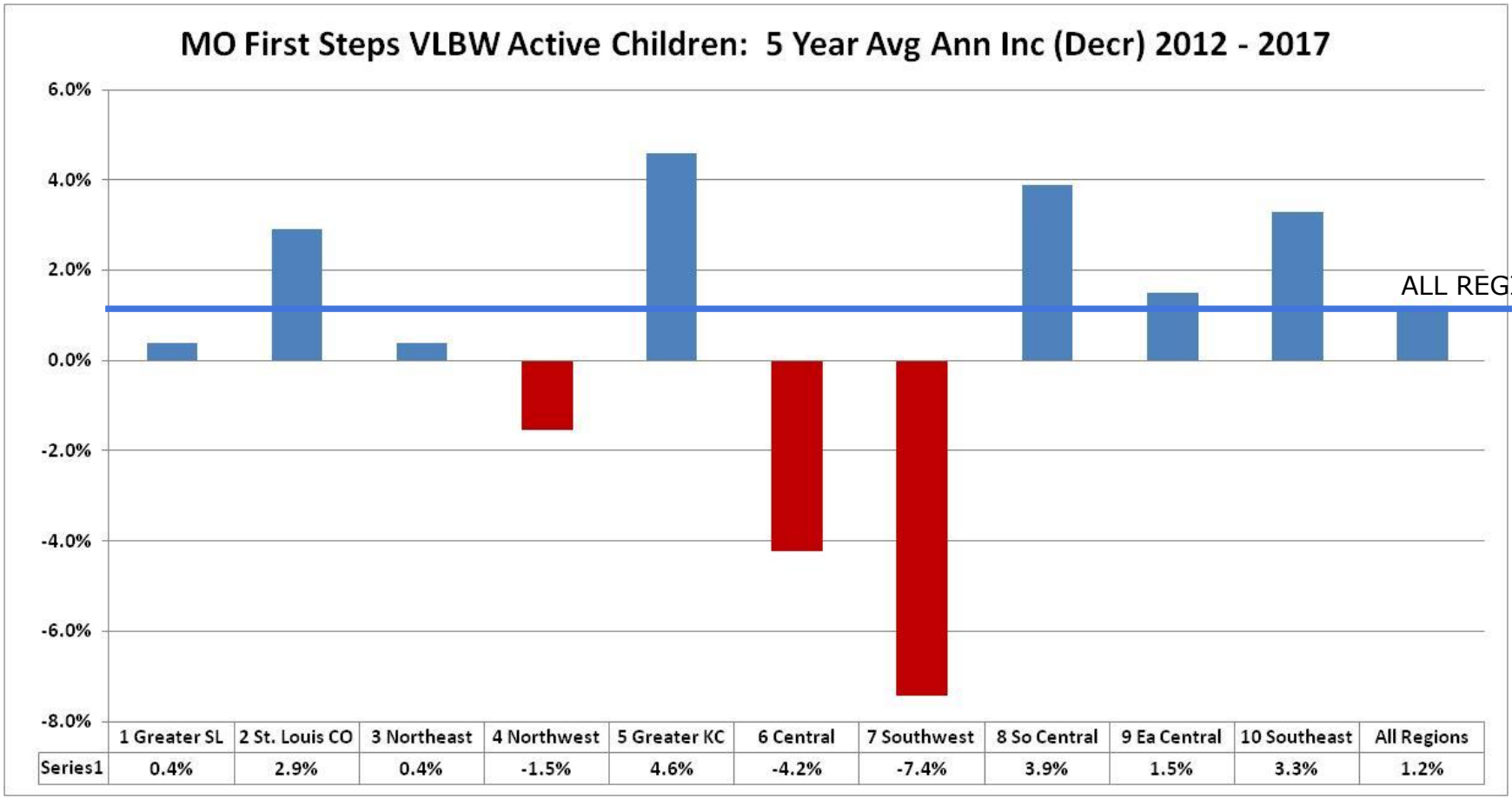
- From 2014 to 2016, low and moderately low birth weight rates increased, while very low birth weight rates were **stable** during 2012-2016. *(January and March 2018 CDC Data Briefs)*

- In 2014, birth rate for young women ages 15 to 24 continued to decline but increased slightly for the 25 to 44 age group. *(Fertility and Birth Rates, Child Trends, October 2016)*

- Nationally, very low birth weight is projected to decrease slightly; however, very low birth rate in Missouri is projected to be **stable**, pacing the population change. (National Vital Statistics Report, January 31, 2018; MO DHSS Data Query Building (accessed June 1, 2018)

Forecast: Plateau (pacing population change)

Very Low Birth Weight (By Region)



	1 Greater SL	2 St. Louis CO	3 Northeast	4 Northwest	5 Greater KC	6 Central	7 Southwest	8 So Central	9 Ea Central	10 Southeast	All Regions
Series1	0.4%	2.9%	0.4%	-1.5%	4.6%	-4.2%	-7.4%	3.9%	1.5%	3.3%	1.2%

SOURCES: FS Trend Data FY11-FY16 *Eligibility Reasons* and *Active Children (includes MO population (0-3)* internal report (Feb. 1 counts); projected data: NCHS Estimates and Philips & Associates projections.

Category 2: Medical Conditions

- Children often have co-occurring conditions, such as autism and cerebral palsy. *(Cerebral Palsy, Co-Occurring Autism Spectrum Disorders, and Motor Functioning – Autism and Developmental Disabilities Monitoring Network, USA, 2008," published in the Developmental Medicine and Child Neurology journal)*

- No change in prevalence rates for common conditions such as cerebral palsy, Down syndrome and autism, due to prenatal testing and improvements in pregnancy and after-birth care have led to increased survival of infants. *(CDC, Key Findings: Birth Prevalence of Cerebral Palsy, Feb. 3, 2017; Massachusetts General Hospital Down syndrome Program Study, in Disability Scoop, August 31, 2017; NCHS Data Brief, Number 291, November 2017)*

Forecast: Plateau (pacing population change) with increase up to 4% when consider co-occurring conditions and/or developmental delays

Category 2: Medical Conditions, continued…

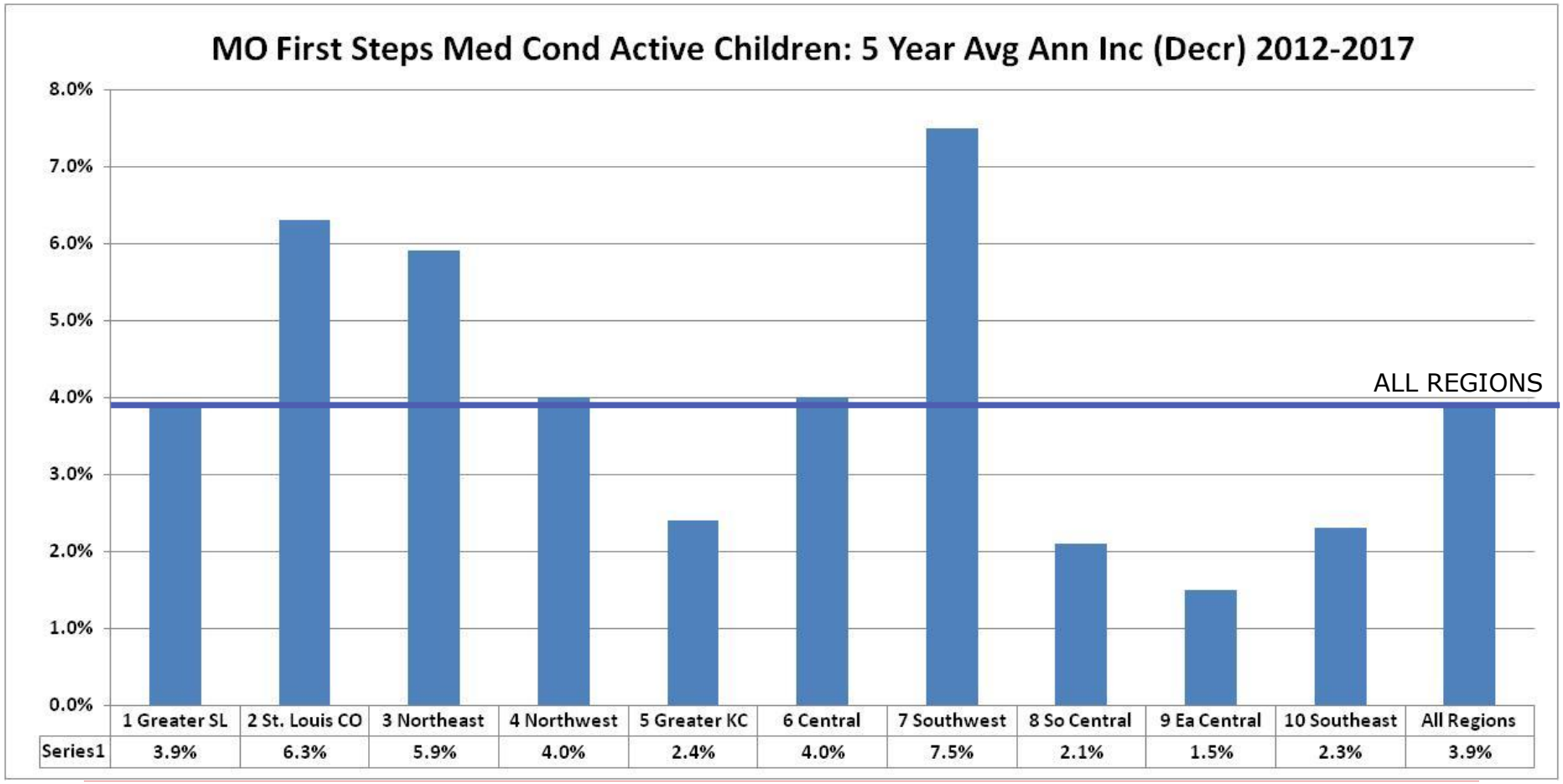
Includes Toxic Substances

- Since 2000, nationally, lead poisoning has decreased significantly. (*Missouri DHSS FY15 Annual Report: Childhood Lead Poisoning Prevention Program)*
- Fetal alcohol syndrome results in developmental delay, craniofacial abnormalities, etc.
- Prenatal amphetamine use and smoking results in an increased risk of premature birth and low birth weight.
- Prenatal cocaine use is associated with poor fetal growth, developmental delay, etc.

(Stanford University Children's Hospital on Neonatal Abstinence Syndrome)

Forecast: Plateau to 3% increase, often with co-occurring conditions and/or very low birth weight, developmental delays

Medical Conditions (By Region)



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A Note About the Impact of Opioids

- Babies are diagnosed with neonatal abstinence syndrome (NAS) when exposed to opioids (e.g., heroin, prescription drugs) during pregnancy. *(Natl. Inst. on Drug Abuse)*
- The rate of newborns diagnosed with NAS increased from nearly 1 case per 1,000 births from 2003-2004 to 7.5 from 2012-2013. *(Science Daily, Dec. 12, 2016)*
- Children with NAS are at-risk for lower developmental scores (cognitive, language and motor) and higher rates of strabismus (commonly known as crossed eyes) at age 2 than others. *(Journal of Perinatology, March 7, 2018; Cincinnati Children's Hospital Medical Center, at ccincinnati.com (accessed June 27, 2018)*
- NAS overlaps with other medical conditions and delays.

Forecast: Increase, when screened and referred to First Steps

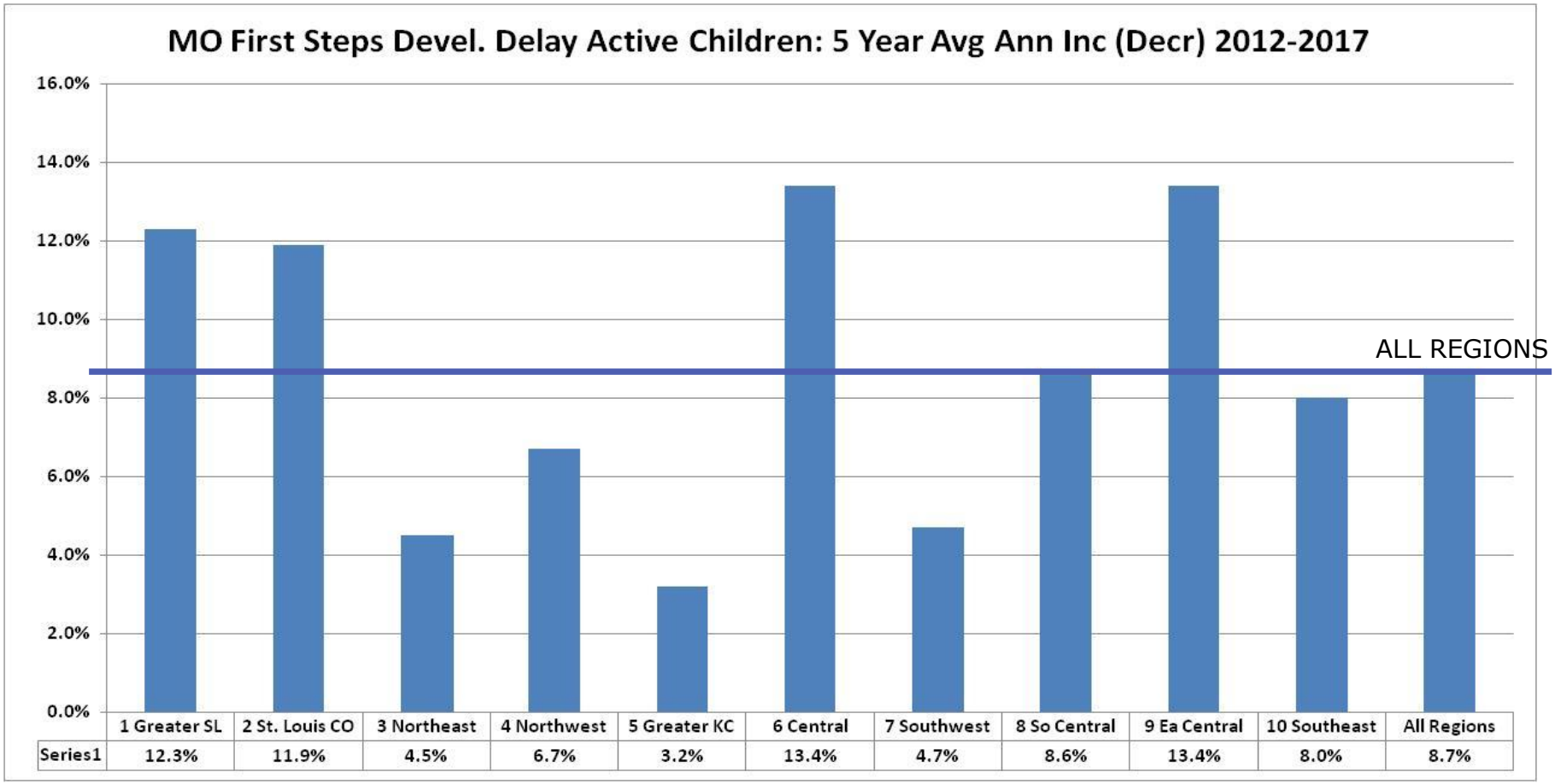
Category 3: Developmental Delays

- The prevalence of developmental delays is much higher than previously thought. In 2008, approximately 13% of children 9 - 24 months had documented developmental delays at any level, at 24 months, only 10% of children with delays received services. *(Steven Rosenberg, in American Academy of Pediatrics, June 2008.)*

- The prevalence of children (3-17) ever diagnosed with a developmental delay (other than autism spectrum disorder or intellectual disability) increased significantly from 3.57% in 2014 to 4.55% in 2016. *(NCHS Data Brief, Number 291, November 2017)*

Forecast: Plateau to 8% increase, reported as developmental delays but often with co-occurring medical diagnoses and/or very low birth weight.

Developmental Delays (By Region)



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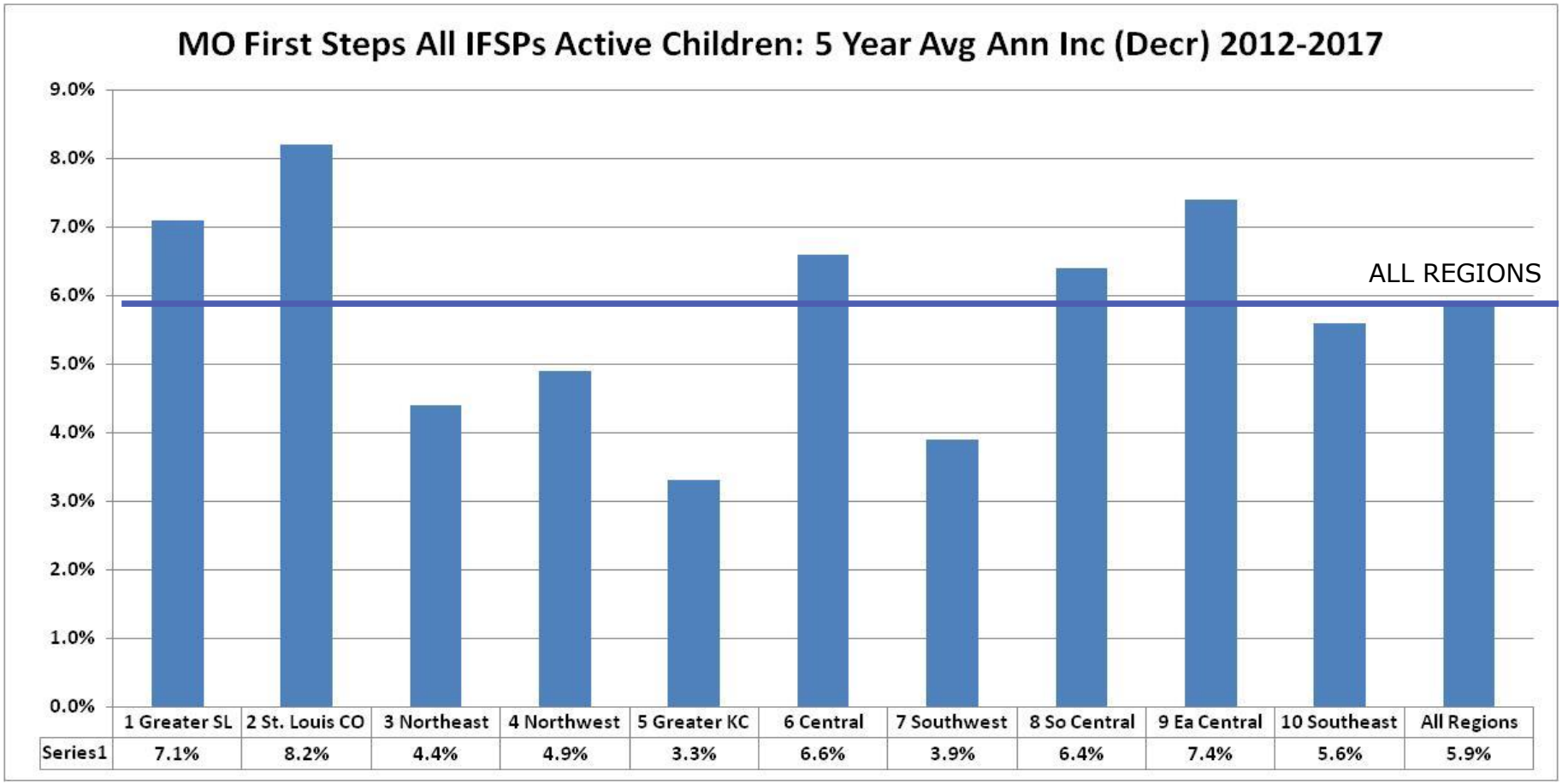
All Eligibility Categories (By Region)



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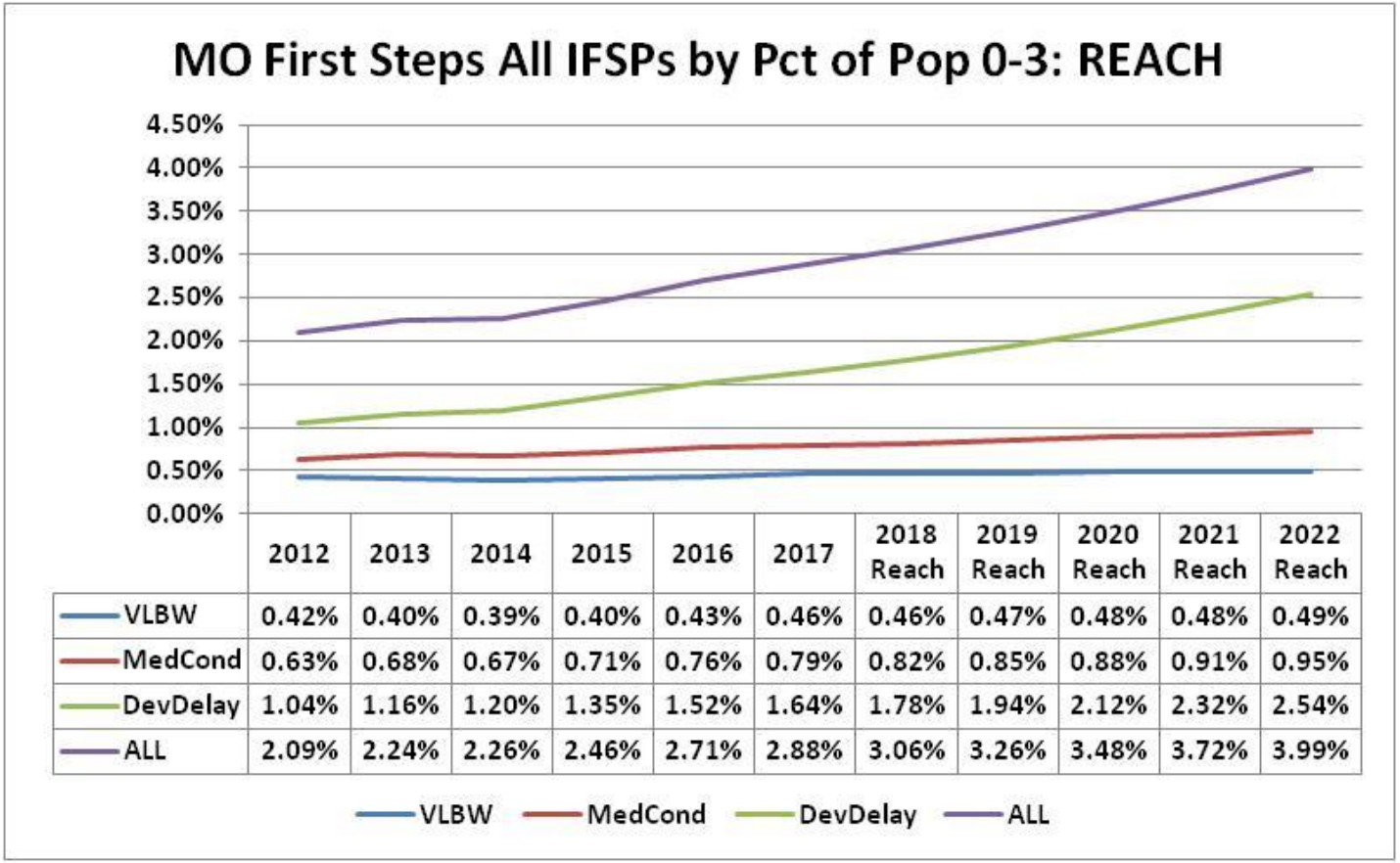
Trends Summary



	2012	2013	2014	2015	2016	2017	2018 Reach	2019 Reach	2020 Reach	2021 Reach	2022 Reach
VLBW	0.42%	0.40%	0.39%	0.40%	0.43%	0.46%	0.46%	0.47%	0.48%	0.48%	0.49%
MedCond	0.63%	0.68%	0.67%	0.71%	0.76%	0.79%	0.82%	0.85%	0.88%	0.91%	0.95%
DevDelay	1.04%	1.16%	1.20%	1.35%	1.52%	1.64%	1.78%	1.94%	2.12%	2.32%	2.54%
ALL	2.09%	2.24%	2.26%	2.46%	2.71%	2.88%	3.06%	3.26%	3.48%	3.72%	3.99%

SOURCES: FS Trend Data FY11-FY16 *Eligibility Reasons* and *Active Children (includes MO population (0-3)* internal report (Feb. 1 counts); projected data: NCHS Estimates and Philips & Associates projections.