Building Bright Futures 2019:

Arizona's Early Childhood Opportunities Report

FIRST THINGS FIRST

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Introduction

First Things First was created by Arizonans to help ensure that Arizona children have the opportunity to arrive at kindergarten prepared to be successful. Each year, the statewide First Things First Board and its affiliated regional partnership councils make decisions about which early childhood strategies to fund that will impact the health and school readiness of Arizona's children.

First Things First is not alone in its mission. Early childhood stakeholders – including parents and caregivers, child care and health providers, state and non-profit agencies, educators, businesses, philanthropists, faith organizations, policymakers and elected leaders – are partners in addressing children's school readiness.

Decisions made by all early childhood stakeholders must be based on science and evidence – about how our children are doing, the resources communities have, and the needs of children in different areas of the state. *Building Bright Futures* is a valuable tool to inform those decisions. Data presented in this report cover a myriad of topics – some directly related to children, their health and their learning; others that describe the circumstances and environments in which children live.

To that end, this biennial assessment describes the status of Arizona's children across a variety of sectors in several ways:

- Our Big Picture of Arizona's Little Kids section (pages 6 to 9) provides state-national comparisons in three key areas: strong families, healthy children and educated young students. The document also describes ways in which First Things First, as an early childhood system partner, is working to expand opportunities for children to develop the tools they need to be ready for school and set for life.
- Our Issue Essays offer an overview of timely issues impacting young children and their families. Each essay provides highlights of how early childhood system partners are working to address the issue, as well as recommendations for how families, communities and policymakers can affect change and improve outcomes for young children. Essay topics Include:
  - Adverse Childhood Experiences (ACEs) – Pages 10 to 16.
  - Early Learning and Literacy – Pages 42 to 50.
  - Childhood Immunizations – Pages 70 to 74.
- Each Issue Essay is followed by a Data Summary, which paints a picture of the overall status of children statewide in a specific area: Demographics, Economic Circumstances, Early Learning and Health. These summaries provide information on how Arizona's children are faring, as well as highlights on any major variances among Arizona counties.

Because the data needs of early childhood stakeholders vary, First Things First also has included additional statewide and county data in its Data Center: www.datacenter.azftf.gov/. The Data Center makes existing First Things First data and reports more accessible, visual and customizable. In doing so, it supports the strategic planning of First Things First regional partnership councils, Board and staff, as well as the work of the many other stakeholders who are critical to the success of the early childhood system in Arizona.

Taken together, all of this information provides significant insight to the challenges facing young children in Arizona – challenges that threaten their well-being today and their school success tomorrow. *Building Bright Futures* is a tool to begin a public dialogue on what our children need to succeed in kindergarten and beyond, and the crucial role that all Arizonans play in ensuring that our kids are ready for school and set for life.

FIRST THINGS FIRST

THE BIG PICTURE

of Arizona's Little Kids

The number of young children in Arizona is expected to grow by 11% by the year 2050. A child's early years hold the key to their success – and our state's. Children who are healthy and prepared when they enter kindergarten do better in school and are more likely to graduate and enroll in college. Well-educated adults are more prepared for the job opportunities of a global marketplace and to contribute to the strength of their communities.

About 90% of a child's brain growth happens before kindergarten, and those early experiences affect whether their brain will develop in ways that promote optimal learning. Poverty, exposure to family violence and lack of access to quality early learning experiences are all factors that can negatively impact a child's early development, and subsequently, their long-term success. A review of some key data points reveals that many of Arizona's babies, toddlers and preschoolers face significant challenges when it comes to stable, nurturing environments and high-quality early learning experiences that will put them on a trajectory for success in kindergarten and beyond.

This document provides state-national comparisons in three key areas: strong families, healthy children and prepared students. In the following pages, additional data points – and trends at the county level – also are identified. Taken together, these data points reveal opportunities across several areas to help more Arizona families provide the stable, nurturing environments children need in order to thrive. This brief also describes ways in which First Things First and its partners in Arizona's early childhood system are working to expand opportunities for children to develop the tools they need to be ready for school and set for life!

THE BIG PICTURE

Strong Families

Young children comprise almost 1 in 5 of our state's residents. They number more than half a million and come from diverse geographic, ethnic and socio-economic backgrounds.

The number of young children in Arizona grew much faster between 2000 and 2010 than in the nation as a whole [i]

+19% +5%

The percentage of households with young children in Arizona is about the same as in the US [ii]

16% 15%

Family stability can affect the resources a child has that either support or restrict their optimal development. Poverty and its effects – including unreliable access to food, housing and child care – can impact a child's physical and emotional development. Arizona's young children are more likely than their peers nationally to be born into challenging situations like poverty and being raised by single parents, teenage parents or grandparents. They also are less likely to receive the supports that can help mitigate the effects of poverty on their overall well-being. Compared to the U.S. as a whole:

MORE YOUNG CHILDREN IN AZ LIVE

In poverty [iii]	26%	22%
With a grandparent [iv]	14%	12%
With a single parent [v]	37%	34%
Born to a teen parent [vi]	6%	7%
Receiving TANF [vii]	1%	2%

First Things First helps strengthen families by giving parents options when it comes to fulfilling their role as their child's first teachers, including kits for families of newborns with resources to support their child's health and learning, community-based parenting education, voluntary home-based coaching for families with multiple challenges, support for families of children with special needs, and referrals to existing programs that meet families' specific challenges.

THE BIG PICTURE

Healthy Kids

Children's health encompasses not only their physical health, but also their mental, intellectual, social and emotional well-being. Factors such as a mother's prenatal care, access to health care and health insurance, and receipt of preventive care such as immunizations and oral health care all influence a child's current health and also their long-term development and success.

Arizona's babies are born as healthy as their peers nationally, which is encouraging.

At birth, AZ babies are no more likely than their national peers to be born:

- **With low birth weight** [viii] — 8% | 8%
- **Premature** [ix] — 9% | 10%

Yet, too many children lack the necessary immunizations before they enter school, and many lack access to care to prevent oral health problems – a key cause of school absenteeism later on.

More young children in AZ

- **Lack health insurance** [x] — 8% | 5%
- **Have decayed teeth or cavities** [xi] — 11% | 8%
- **Lack needed immunizations** [xii] — 34% | 30%

First Things First supports healthier kids by supporting pregnant mothers with information and referrals to support a healthy pregnancy and birth; giving parents tools to promote good nutrition and healthy weight; expanding children's access to oral health screenings and preventive fluoride varnishes; building awareness of health insurance options available for families with children; helping early educators meet the social-emotional needs of kids in their care; and, improving health practices in home and center-based child care settings.

i. *U.S. Census Bureau (2010). 2010 Decennial Census, SF 1, Table P14. Retrieved from http://factfinder.census.gov.*

ii. *United States Census Bureau (2010). 2010 Decennial Census, Summary File 1, Tables P1, P14, P20. Retrieved from http://factfinder.census.gov.*

iii. *United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B17020. Retrieved from https://factfinder.census.gov*

iv. *United States Census Bureau (2010). 2010 Decennial Census, Summary File 1, Table P41. Retrieved from http://factfinder.census.gov.*

v. *United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Tables B05009, B09001, and B17006. Retrieved from https://factfinder.census.gov*

vi. *Arizona Department of Health Services (2019). Arizona Health Status and Vital Statistics Data. Unpublished data received by request. Retrieved from https://pub.azdhs.gov/health-stats/report/avs/index.php. Martin, J.A., Hamilton, B.E., Osterman, M.J.K., Driscoll, A.K., Drake, P. (2018). Births: Final Data for 2017. National Vital Statistics Reports, 67(8). Hyattsville, MD: National Center for Health Statistics.*

vii. *U.S. Census Bureau (2010). 2010 Decennial Census, SF 1, Table P14; U.S. Department of Health & Human Services, Office of Family Assistance (2016). TANF Caseload Data 2018. Retrieved from https://www.acf.hhs.gov/ofa/resource/tanf-caseload-data-2018*

THE BIG PICTURE

Educated Young Students

Quality early learning promotes success in school and in life. The quality of a child's early experiences impacts whether their brain will develop in ways that promote optimal learning. Research has demonstrated that children with access to quality early learning environments are more prepared for kindergarten: they have increased vocabulary, better language, math and social skills, have more positive relationships with classmates, and score higher on school-readiness assessments. They are less likely to need special education services or be held back a grade, and are more likely to graduate and go on to college.

Compared to the U.S. as a whole:

Far fewer of Arizona's 3- and 4-year-olds attend preschool: [xiii]

38% **48%**

Healthy development is important for school readiness. Early identification of developmental delays – through regular screenings starting at birth – is a critical first step to ensuring that children receive the intervention and support that can mitigate the impact of the delays on their future learning. Left unaddressed, many developmental issues can become learning problems later in a child's life.

Fewer of Arizona's young children received developmental screenings: [xiv]

29% **31%**

First Things First promotes early learning by: completing screening for almost 17,200 children to detect developmental or sensory issues that can become learning problems later on; working with more than 1,000 child care and preschool providers statewide to enhance the quality of early learning programs for more than 62,000 young children statewide; funding scholarships for almost 9,200 children to access quality early learning settings in the past year alone; working with relatives and friends who provide child care to increase their knowledge of brain development and young children's learning; and helping early educators expand their skills working with infants, toddlers and preschoolers.

viii. *Arizona Department of Health Services (2019). Arizona Health Status and Vital Statistics Data. Unpublished data received by request. Arizona Department of Health services (2018). Advanced Vital Statistics by County 2015-2017, Table 5B-30. Retrieved from https://pub.azdhs.gov/health-stats/report/avs/index.php. Office of Disease Prevention and Health Promotion (2019). Healthy People 2020: Maternal, Infant, and Child Health, Indicators MICH-11.3, MICH-8.1, & MICH-9.1. Retrieved from https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives*

ix. *Arizona Department of Health Services (2019). Arizona Health Status and Vital Statistics Data. Unpublished data received by request. Arizona Department of Health services (2018). Advanced Vital Statistics by County 2015-2017, Table 5B-30. Retrieved from https://pub.azdhs.gov/health-stats/report/avs/index.php. Office of Disease Prevention and Health Promotion (2019). Healthy People 2020: Maternal, Infant, and Child Health, Indicators MICH-11.3, MICH-8.1, & MICH-9.1. Retrieved from https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives*

x. *United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B27001. Retrieved from http://factfinder.census.gov*

xi. *Child and Adolescent Health Measurement Initiative (2018). National Survey of Children's Health 2016-2017. Data Resource Center for Child and Adolescent Health supported by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). Retrieved on 08 July 2019 from www.childhealthdata.org*

xii. *Centers for Disease Control (2019). ChildVaxView: Interactive Viewer for Data from National Immunization Survey-Child (NIS-Child). Retrieved from https://www.cdc.gov/vaccines/imz-managers/coverage/childvaxview/data-reports/index.html*

xiii. *United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B14003. Retrieved from http://factfinder.census.gov*

xiv. *Child and Adolescent Health Measurement Initiative (2018). National Survey of Children's Health 2016-2017. Data Resource Center for Child and Adolescent Health supported by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). Retrieved on 08 July 2019 from www.childhealthdata.org*

ISSUE ESSAY

Early Adversity Threatens Long-term Success

Landmark research conducted by Kaiser Permanente from 1995 to 1997 demonstrated the extent to which negative experiences in early childhood impacted later outcomes in health, education and well-being. According to a summary produced by the federal Centers for Disease Control, the study showed that Adverse Childhood Experiences (ACEs) occurred in three major categories: abuse, neglect and household challenges. Almost two-thirds of study participants reported at least one ACE, and more than one in five reported three or more ACEs. Researchers found that, as the number of ACEs increased, so did the risk of negative outcomes in adulthood, such as poor health outcomes, depression, drug use, domestic violence, unintended or teen pregnancy and poor academic achievement. [i]

Why do ACEs lead to negative outcomes later in life? An individual experiences a combination of adverse experiences in childhood, which increases their level of toxic stress and can lead to disrupted brain development. This may result in social, emotional and cognitive impairment, which then increases the likelihood the individual will adopt risky behaviors as well as developing diseases, disabilities or social problems. [ii]

Health Risks Rise with Number of ACEs

33% Report No ACEs	51% Report 1-3 ACEs	16% Report 4-10 ACEs
With 0 ACEs:	With 3 ACEs:	With 7+ ACEs:
1 in 16 smokes	1 in 9 smokes	1 in 6 smokes
1 in 69 is alcoholic	1 in 9 is alcoholic	1 in 6 is alcoholic
1 in 480 uses IV drugs	1 in 43 uses IV drugs	1 in 30 uses IV drugs
1 in 14 has heart disease	1 in 7 has heart disease	1 in 6 has heart disease
1 in 96 attempts suicide	1 in 10 attempts suicide	1 in 5 attempts suicide

Statistics from "The High Cost of Adverse Childhood Experiences" compiled by Krista Goldstine-Cole, education director at the Washington State Family Policy Council.

While the ACEs study sheds light on how early adversity impacts later outcomes, it did not explain why some children can experience multiple adverse experiences and not experience lasting harm. The Harvard Center for the Developing Child explains that some children exhibit "resiliency", the ability to adapt in difficult situations. The Center concluded that children who are resilient have the negative early experiences counter-balanced by positive experiences and the development of adaptive skills.[iii] According to the Center, "the single most common finding is that children who end up doing well have had at least one stable and committed relationship with a supportive parent, caregiver, or other adult. These relationships provide the personalized responsiveness, scaffolding, and protection that buffer children from developmental disruption. They also help build key capacities—such as the ability to plan, monitor and regulate behavior, and adapt to changing circumstances— that enable children to respond to adversity and to thrive. This combination of supportive relationships, adaptive skill-building, and positive experiences constitutes the foundations of what is commonly called resilience." [iv]

A review of data from the National Survey on Children's Health demonstrates that young children in Arizona are more likely to experience multiple ACEs and that Arizona families report less resiliency. Out of all 50 states and the District of Columbia, only Oklahoma (47.9%) has a higher proportion of children birth to 5 who have experienced at least one ACE than Arizona (43.7%). In addition, Arizona young children are more likely to have two or more ACEs (17.9%) than children in the U.S. (11.5%).[v] In particular, Arizona's young children experience more ACEs related to parental substance use, mental illness, violence, incarceration, and divorce/separation. The same survey also indicated that Arizona families have trouble coping with difficulties. Families were asked how often they dealt with difficulties in the following ways: (a) Talk together about what to do, (b) Work together to solve our problems, (c) Know we have strengths to draw on, and (d) Stay hopeful even in difficult times. Families were considered resilient if they answered either "most" or "all of the time" to the survey questions. Arizona placed last in a measure of family resilience during difficult times, with only 77% of families reporting consistently resilient approaches compared to 80% of families nationwide. About 10% of Arizona families reported a lack of positive coping strategies.[vi]

Research increasingly shows that children living in poverty are more likely to experience more frequent and intense adversity.[vii] This may explain, in part, why Arizona ranks so high in the percentage of young children experiencing ACEs. Compared to the U.S. as a whole, Arizona consistently has a higher proportion of young children who live in poverty. That said, following the national trend, child poverty rates have been steadily declining since 2012. In 2017, the percentage of Arizona's young children living in poverty decreased to 23%, the lowest it has been since the Great Recession. Despite these promising gains, still more than one out of every five young children in Arizona lives in poverty.

A recent brief from the Annie E. Casey Foundation also found that Arizona ranks high among states with children living in concentrated poverty (defined as Census tracts with 30% of poverty or more). Specifically, Arizona:

- Has the highest percentage of rural children living in concentrated poverty (39% vs. 11% nationally);
- Is home to more than a quarter of the nation's American Indian children living in high-poverty areas (56,000 children, or 28% of the national total); and
- Has more than a quarter of Latino children living in concentrated poverty (30%). [viii]

In Arizona, there are countless efforts to build community awareness of the prevalence and impact of ACEs, identify current victims or survivors of trauma, and support children and families' resilience and healing from trauma related to ACEs. Those efforts include the Governor's Office of Youth, Faith, and Family; state agencies; non-profit organizations serving children and families; community coalitions, advocates; and professionals in the areas of health, education, child welfare, behavioral health and juvenile justice (to name a few). While their individual efforts vary and are too numerous to list here, many of these efforts are informed, supported, aligned with and, in some cases, coordinated by the Arizona ACEs Consortium.

The Consortium is a network of more than 2,0000 individuals and organizations working to build awareness on the impact of ACEs and to provide support to initiatives that use research about trauma to inform their work with children and adults throughout Arizona (also known as trauma informed care). According to the federal Substance Abuse and Mental Health Services Administration (SAMHSA), trauma informed care focuses on the four R's:

- **Realizing** the widespread impact of trauma and understanding potential paths to recovery;
- **Recognizing** the signs of trauma in children and adults, including those who work within support systems;
- **Responding** by integrating knowledge about trauma into polices, practices and procedures; and
- **Resisting** the re-traumatization of children and the adults who care for/serve them.

The Consortium carries out its work through publications, trainings to individuals and organizations on ACES and trauma-informed care, and through the actions of its numerous workgroups. For example, one workgroup is focused on trauma-informed practices in faith communities, while another looks at how schools can better address the needs of traumatized children. More information about ACEs in Arizona, trainings on ACEs, resilience and trauma-informed care, and the focus/meeting times of individual workgroups can be found on the Consortium website, azaces.org.

Because ACEs happen in the context of the environments in which young children live, many efforts to prevent or reduce the impact of ACEs focus on building the resiliency of families. The Center for the Study of Social Policy developed Strengthening Families: A Protective Factors Framework™ to define and promote quality practice for families. The research-based, evidence-informed Protective Factors are characteristics that have been shown to make positive outcomes more likely for young children and their families, and to reduce the likelihood of child abuse and neglect.

The five Protective Factors that comprise the Strengthening Families model are: (1) knowledge of parenting and child development, (2) social/emotional competence of children, (3) nurturance and attachment, (4) social connections, (5) parental resilience, and (6) concrete supports.

Each protective factor is supported by research from several fields of study. An extremely important understanding that runs throughout the explanations of the Strengthening Families protective factors – and that emerges from a significant part of the research behind the framework – is "nurturing and attachment." For example, research studies show:

1. **Parental resilience** occurs when parents are able to effectively manage stressors. By managing stressors, parents feel better and can provide more nurturing attention to their child, which enables their child to form a secure emotional attachment.
2. Understanding early brain development is essential in increasing **knowledge of parenting and child development**. Developing brains need attuned caregivers who interact with them in an affectionate, sensitive and nurturing manner. Such care gives rise to the development of a secure attachment between the child and the adult.
3. The course of a **child's social-emotional development** depends on the quality of nurturing attachment and stimulation that a child experiences. [ix]

While the work of individuals and organizations is critical, both the ACEs Consortium and the Harvard Center for the Developing Child emphasize that information about the impact of adversity, as well as the factors that promote resiliency, should also be used to inform decisions about public policy to support struggling families. Among the Center's recommendations are the expansion of resources that reduce family stress and promote healthy relationships, including subsidized parental leave, access to high-quality early care and education services, community recreation and support activities, and home-visiting programs that coach new parents on how to interact positively with their children.[x] The next section of this report details efforts to expand access to high quality early learning for children from working families (see Page 51).

Evidence-based home visitation programs have been shown to be an effective way to improve outcomes for families and children experiencing various risk factors. Home visitors deliver one-on-one coaching and interaction tailored to the needs of individual families. Three of the most widely implemented evidence-based home visitation program models are Healthy Families, Nurse Family Partnership and Parents As Teachers. These three program models have been evaluated nationally, and evidence demonstrates each of these models significantly improve child and family outcomes (see table below).

Impact of Evidence-Based Home Visitation Program Models

	Improved Outcome	HFAz	NFP	PAT
Short-Term Outcomes	Child cognitive, motor, behavioral, socio-emotional development	x	x	x
	Maternal mental health and depression	x	x	
	Parenting stress levels	x	x	x
Intermediate Outcomes	Connection to community supports	x	x	x
	Home environment	x	x	x
	Mother employment	x	x	
Long-Term Outcomes	Reduced child maltreatment	x	x	x
	Economic self-sufficiency		x	x
	Decreased substance abuse	x	x	

In addition, the U.S. Department of Health and Human Services and Mathematica Policy Research have endorsed these three programs because of the compelling evidence in support of improved outcomes for children and families who participate in these programs.[xi] Although home visitation models vary, all programs are designed to improve the lives of at-risk children and families through regular home visits administered by trained providers such as nurses, mental health professionals, social workers or paraprofessionals. Comprehensive home visitation programs provide participating families of infants and toddlers and pregnant women with information and education on parenting, child development and health topics while assisting with connections to other resources or programs as needed.

A review of recent data from all three major funded models focused on families with young children highlights the short and long-term impacts of these programs for children and families. For example, national data from Nurse Family Partnership's 2017 annual report revealed:

- 67% reduction in intellectual or behavioral problems at age 6;
- 39% fewer injuries among children;
- 48% reduction in child abuse or neglect;
- 82% increase in maternal employment;
- 68% increase in father's presence in the household; and
- 72% reduction in child arrests at age 15.[xii]

Similarly, a 2017 evaluation of Healthy Families Arizona showed:

- Fewer incidents of premature births among enrolled families;
- 98% of participating families had no substantial cases of child abuse and neglect during the program year;
- 94% of children received a developmental screening by age 1;
- Almost 91% of participating 1-year-old were up to date on immunizations;
- Only 2.2% of infants whose parents enrolled in the program prenatally had positive drug screens (compared to 12.1 of infants whose parents enrolled in the program when their baby was born);
- The percentage of employed mothers increased from 27% at the time of their child's birth to 46% two years later;
- 11% of mothers were enrolled in school in the first year of their child's life;
- And, participating families reported positive improvements in areas such as depression, parent/child behavior, effective parenting, home environment and commitment to their parenting role.[xiii]

A 2017 evaluation of the Parents As Teachers Program in Tucson's Sunnyside School District showed that:

- 58% had statistically significant improvements in parenting practices;
- 68% had statistically significant improvements in factors that contribute to family resilience;
- At the end of three school years, children who participated in PAT scored higher in various aspects of reading;
- PAT participating children scored higher on the Language Arts portion of AZMERIT, the state's assessment; and
- PAT participants showed greater gains in math than non-PAT participants.[xiv]

Federal Maternal Infant Early Childhood Home Visitation funds and First Things First grants are the two largest sources of support for evidence-based home visitation models in Arizona. In federal fiscal year 2018, MIECHV programs served 1,801 families, impacting 1,723 children. In state fiscal year 2019, FTF grantees served 3,738 families with 4,465 young children. A snapshot of other factors related to families' basic need reveals further challenges, including:

- Between 2015 and 2018, the number of families with young children receiving Supplemental Assistance to Needy families (food stamps), decreased by 16%.
- Although 60% of young children in Arizona live in families where all the available parents work, it is estimated that almost half the state (48%) is a child care desert, meaning there are three children for every child care space available.
- And, in most Arizona counties, more than a quarter of households spend 30% or more of their income on housing.

There are more than 384,000 households with young children encompassing more than 520,000 children birth to 5 years old in Arizona, more than 1 in 4 of whom live in poverty. It is evident that Arizona has a long way to go before serving all families who may need support. In addition to expanding home visitation programs, there are a number of steps families, communities and policymakers can take to reduce the incidence of ACEs, particularly among young children.

What Families Can Do:

- Enroll in programs designed to reduce poverty/financial stress.
- When experiencing adversity, reach out to professionals and your personal networks for support.
- To learn about programs available in the community to meet specific needs, dial 211.

What Communities/Practitioners Can Do:

- Help build awareness of the prevalence and impact of adverse childhood experiences.
- Consider how ACEs screening can be embedded within your organization.
- Implement trauma-informed care within your organization.
- Support prevention programs, including home visitation and family resource centers, that are trauma-informed and offer an opportunity to improve outcomes for both children and their parents.
- Support professional development for all providers working directly with families on trauma-informed care and the protective factors that promote resilience.
- Increase collaboration and networks of providers connecting families through referrals and navigation to a wide range of services and reducing barriers for families to access needed services (i.e. wrap-around services).

What Policymakers Can Do:

- Ensure that programs to address family violence, substance abuse and mental illness are available, and that they are both trauma informed and culturally responsive.
- Help break multi-generational cycles of poverty by ensuring that adequate funding is in place to help families meet their basic needs. Pair programs that improve outcomes for children and their families, such as workforce training and employment to parents with high quality early learning for their children;

While poverty is one of the biggest risk factors impacting young children, the following pages highlight various aspects of the demographics and economic circumstances of young children that collectively further illuminate the family environments in which Arizona's young children live.

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ix. *Center for the Study of Social Policy, Strengthening Families, A Protective Factors Framework, Fact Sheet*

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Data Summary: Family Characteristics

Why it Matters

Families with young children often utilize community resources such as early care and education, health care facilities and social services to help them raise thriving children.[1] Having reliable access to these systems has been shown to improve children's health and educational outcomes.[2,3,4,5] Accurate and up-to-date information about the characteristics and composition of families in their county can help policy makers and program providers assure that they have appropriate and accessible services in their communities to help young children flourish. Knowledge of local demographics can inform what resources are needed, where these services should be located, and can help providers tailor offerings to the specific needs of those who are likely to use them. For instance, as Arizona communities become increasingly diverse, understanding the makeup of the families they serve can better prepare health, education, and social service staff to engage with families in culturally responsive ways.[6,7,8]

In addition to growing racial, ethnic and social diversity, U.S. and Arizona families are becoming more diverse in terms of family structure.[9] Many children live in single parent households, and it is increasingly common for children to live in kinship care (living with people other than parents such as relatives or close friends).[10,11] As family structure changes, so can family strengths and challenges that impact child development, such as poverty, access to health and education resources, and the quality of a child's interactions with adult caregivers.[12,13,14,15,16,17,18] Regardless of their family structure, all young children benefit from nurturing relationships with adults. Research has identified that these early relationships are a primary influence on brain development.[19] Ensuring that children have adult caregivers who consistently engage in high quality interactions beginning in infancy can help protect young children from negative effects of stress and adversity and builds a foundation in the brain for all of the learning, behavior and health that follow.[20,21]

Program and policy decisions that consider a variety of data regarding the structure and stability of children's home and community environments help ensure more effective supports for families and have a greater chance to improve well-being, economic security, and educational outcomes for children.

How Arizona's Young Children Are Faring

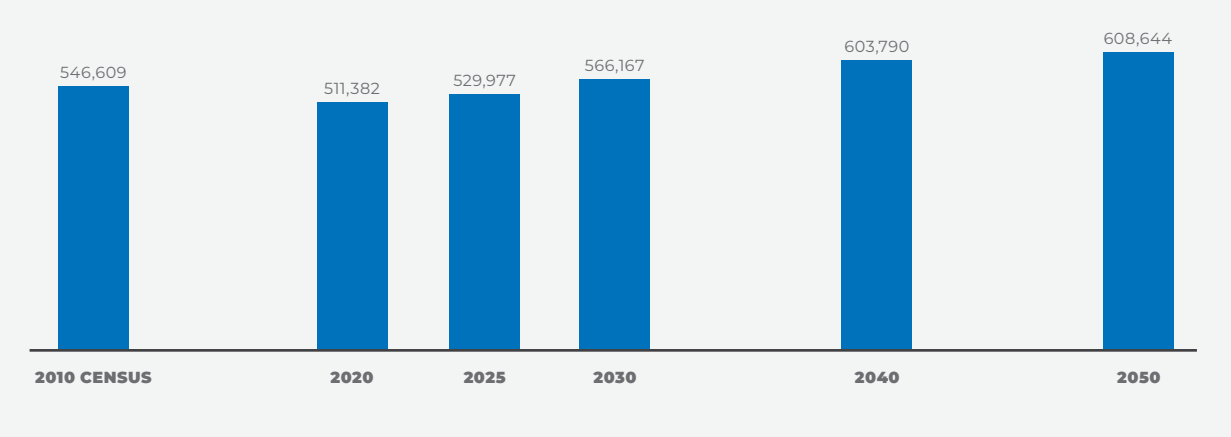
A note about county data:

The data presented in the following pages to show changes over time can seem rather large (for example, if the number of families served by a program shows a 50% decrease in the past year).[a] Careful consideration should be given to the context before drawing any conclusions, particularly given the relatively small populations in some counties. For example, in Greenlee and La Paz, the least populous of Arizona's counties, a small number of families (e.g., 100) moving in or out could easily increase or decrease the population percentages. The opposite is true in the more populous counties, most especially Maricopa, where 100 families moving in or out of the county would not affect the population percentages much. Accordingly, a percentage change in a populous county like Maricopa represents many more children than a percentage change in a smaller county like La Paz.

Population Change

Young children make up a small portion of the overall population, but their well-being has wide-reaching impacts on families, social service systems, and the health of the state's future population. According to the last U.S. Census in 2010, children 5 and under made up less than one-tenth (8.6%) of Arizona's total population (6,392,017). Between census counts, state level population projections are developed by the Arizona Department of Administration, Employment and Population Statistics based on current and expected rates of birth, immigration, and mortality. The number of young children in the state is expected to be lower at the next census, dropping by 6% from 2010 (546,609) to 2020 (511,382). This decline reflects a nationwide decrease in the number of children born, a trend that began with the Great Recession in 2008, and that illustrates its lingering effects.[22,23] However, the number of children is expected to increase again, and by 2050, current projections estimate that the population of children between the ages of 0 and 5 in Arizona will increase by 11% (608,644) (Figure 1).

Figure 1: Population Projections for Young Children (ages 0-5) in Arizona, 2010-2050



Source: Arizona Dept. of Administration, Employment and Population Statistics: "2018-2055 State and county population projections." Retrieved from: www.population.az.gov/

a. To show changes over time, a percent change between two years is reported to show the relative increase or decrease during that period. Percent change between two years is calculated using the following formula: % change =(# in Year 2 - # in Year 1)/ # in Year 1

Projections for the number of young children vary widely across counties. Although some population growth is projected for the state as a whole between 2010 and 2050, seven counties are projected to see a decline in the number of young children, with the largest declines in Apache (-53%) and Navajo (-33%) counties (Table 1). At the other end of the spectrum, the size of the population of young children in Pinal county is expected to increase by about 77% between 2010 and 2050.

Table 1: Projected Population of Young Children (Ages 0-5), 2020 to 2050t

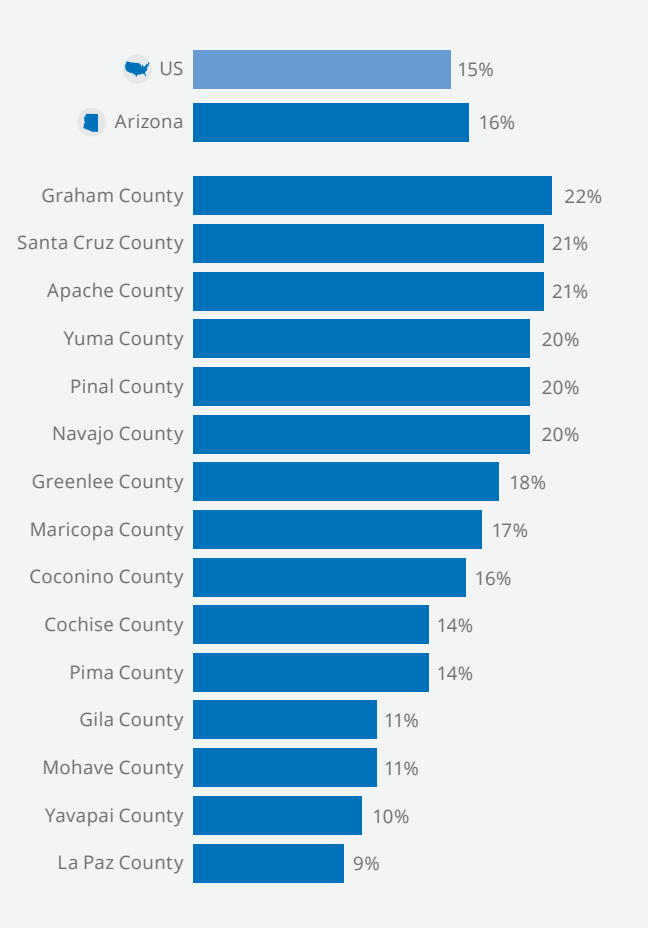
	2010 Census Population (Ages 0-5)	Population Projection (Ages 0-5), 2020	Population Projection (Ages 0-5), 2030	Population Projection (Ages 0-5), 2050
Arizona	546,609	511,382	566,167	608,644
Apache County	7,171	5,572	4,803	3,345
Cochise County	10,125	9,280	9,049	8,899
Coconino County	10,777	9,184	8,632	7,780
Gila County	3,657	3,294	3,030	2,733
Graham County	3,830	3,171	3,310	3,136
Greenlee County	794	867	865	812
La Paz County	1,227	1,268	1,274	1,249
Maricopa County	339,217	326,050	364,228	380,647
Mohave County	13,218	11,146	13,319	14,973
Navajo County	10,550	8,983	8,762	7,079
Pima County	74,796	68,522	71,952	73,525
Pinal County	36,181	29,740	42,572	64,037
Santa Cruz County	4,435	3,843	3,964	3,313
Yavapai County	12,583	11,651	13,196	14,808
Yuma County	18,048	18,900	20,797	22,308

Source: Arizona Dept of Administration (ADoA), Employment and Population Statistics: "2018-2055 State and county population projections." Retrieved from: www.population.az.gov/

Households with Young Children

Although the proportion of households with young children in Arizona (16%) is similar to the national rate (15%), families with young children make up a much higher proportion of households in certain counties. At the top of the list are Graham, Santa Cruz, Apache, Yuma, Pinal, and Navajo counties, where at least one out of every five households has a young child. In Yavapai and La Paz counties, only about one in ten households has a young child (Figure 2).

Figure 2: Percent of households with one or more young children (ages 0-5)

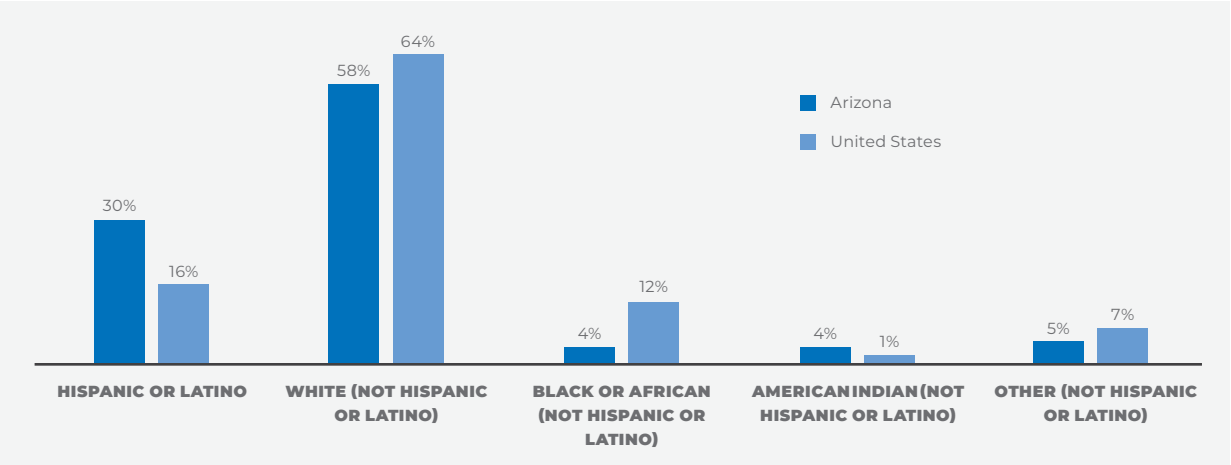


Source: United State Census Bureau (2010). 2010 Decennial Census, Summary File 1, Tables P1, P14, P20.

Race and Ethnic Composition

The ethnic makeup of Arizona's population differs from that of the nation as a whole; across all ages, there are relatively more Hispanic or Latino (30% vs. 16%) and American Indian (4% vs. 1%) residents and relatively fewer African American residents (4% vs. 12%) (Figure 3).

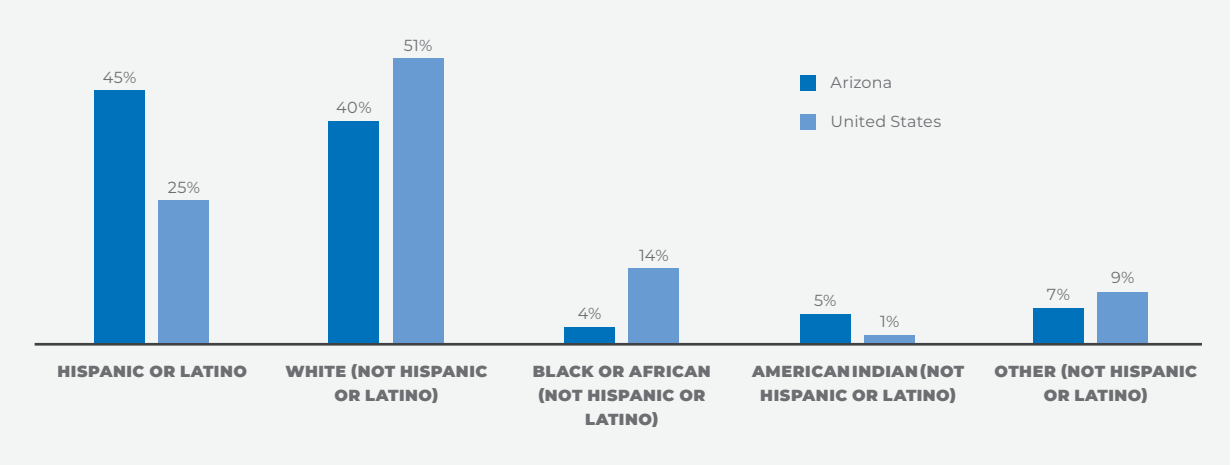
Figure 3: Race or ethnicity (all ages), 2010



Source: United States Census Bureau (2010). 2010 Decennial Census, Summary File 1, Table P2.

These trends are especially pronounced among young children. 45% of Arizona's young children are Hispanic or Latino, nearly double the percentage of the U.S. as a whole (25%; see Figure 4). Arizona also has a higher proportion of young American Indian children than the U.S. as a whole (5% vs. 1%, respectively). African American young children represent a smaller proportion of the population in Arizona than nationwide (4% vs. 14%).

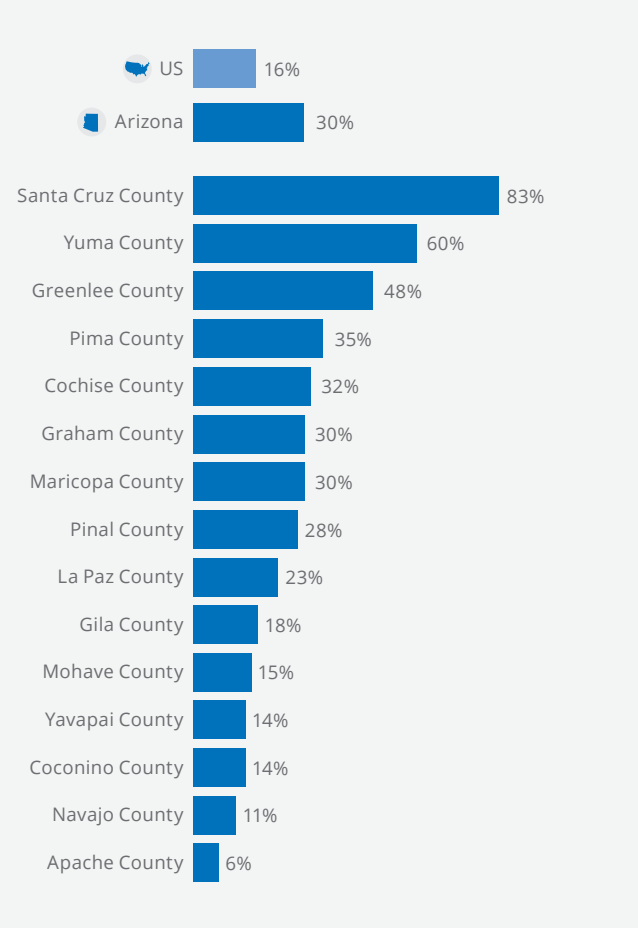
Figure 4: Race or ethnicity (children ages 0-5), 2010



Source: United States Census Bureau (2010). 2010 Decennial Census, Summary File 1, Tables P12A-H.

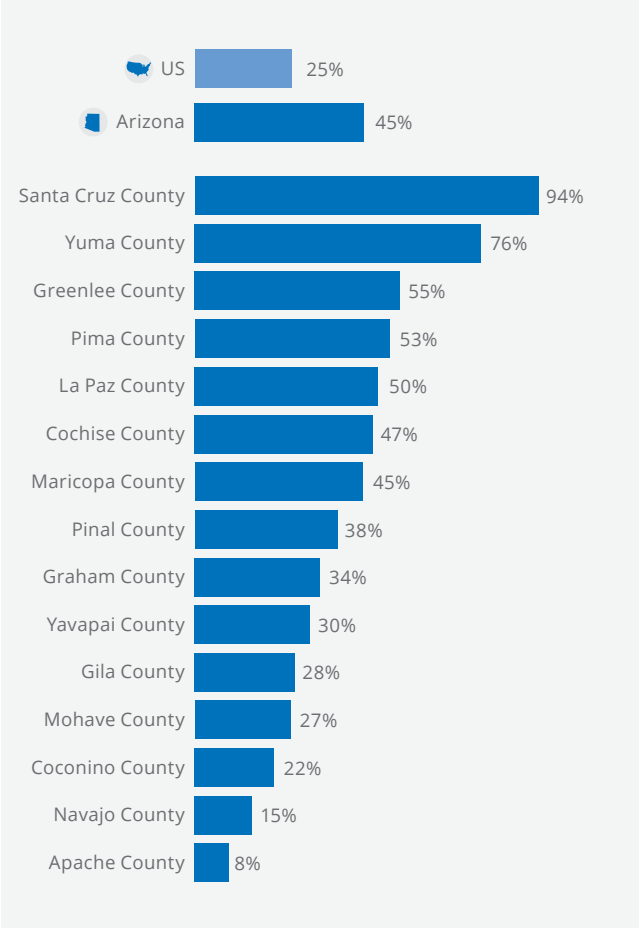
The ethnic composition of both adult and young child populations differs dramatically by county, particularly with regard to the Hispanic or Latino population across the state (see Figure 5 & Figure 6). Counties along the Arizona-Mexico border tend to have higher proportions of Hispanic or Latino residents (e.g., Santa Cruz, Yuma, Pima, and Cochise). In all counties, the percentage of Hispanic or Latino young children is higher than the percentage of Hispanic or Latino adults. This difference is particularly dramatic in La Paz County where less than a quarter of adults identify as Hispanic or Latino, and half of young children are identified as Hispanic or Latino. As Arizona demographics change, it is important to communicate with decision-makers across different sectors to ensure strategies that meet the unique needs of diverse children, and families with children, are prioritized and implemented.

Figure 5: Percent of Population (All Ages) Who Are Hispanic, 2010



Source: United State Census Bureau (2010). 2010 Decennial Census, Summary File 1, Table P2.

Figure 6: Percent of Young Children (Ages 0-5) Who Are Hispanic, 2010

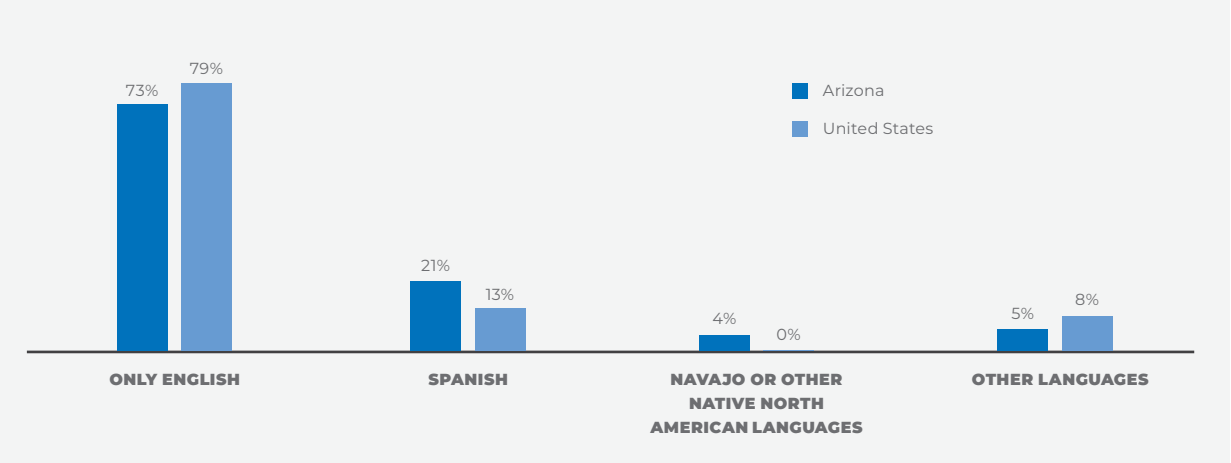


Source: United State Census Bureau (2010). 2010 Decennial Census, Summary File 1, Table P12A-H.

Language of Children and Families

In keeping with our racial and ethnic diversity, Arizona is also linguistically diverse. About a fifth (21%) of the population over age 5 speak Spanish at home, 2% speak Navajo or another Native American language, and 5% speak other languages (Figure 7). Overall, about 18% of the population speak another language and speak English "very well," meaning they are proficiently bi- or multi-lingual (Figure 7). Young children can benefit from this exposure to multiple languages; mastery of more than one language is an asset in school readiness and academic achievement, and offers cognitive and social-emotional benefits in early school and throughout their lifetime.[24,25,26,27]

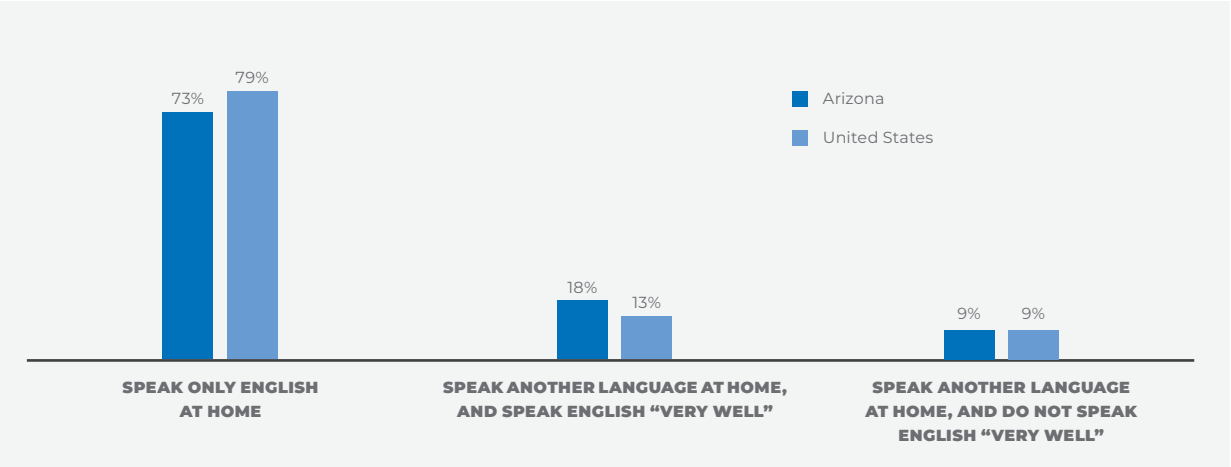
Figure 7: Language use at home (population ages 5 and older).



United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B16001

About 9% of the population speak another language at home and cannot speak English "very well" (Figure 8). Parents and caregivers with limited English proficiency may experience barriers to accessing health care and social service information, as well as barriers to engaging in important interactions at schools; these barriers can affect a family's ability to promote positive child development. Having bi- or multi-lingual staff and support and resources available can help support these families.[28,29]

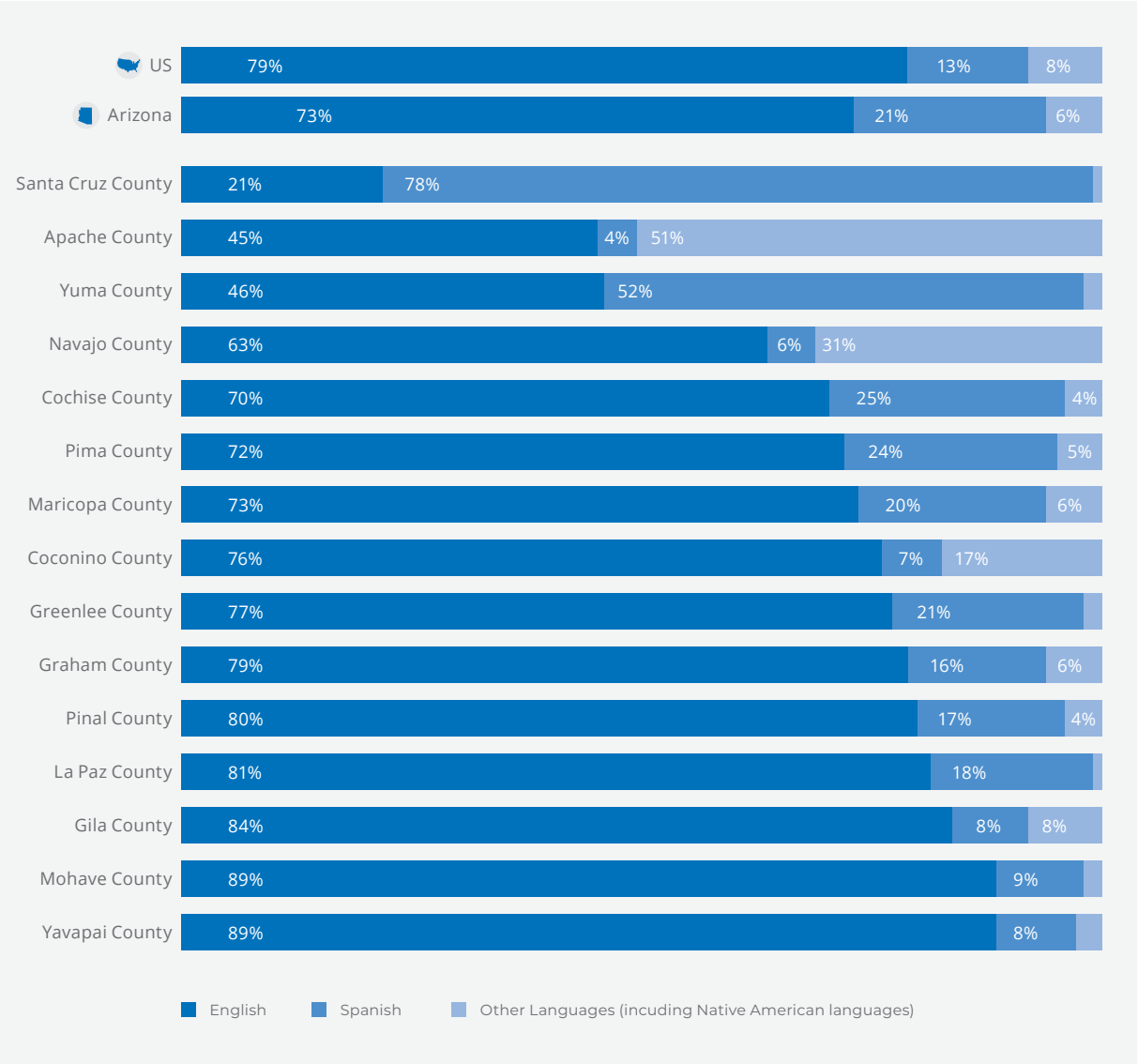
Figure 8: English-Language Proficiency for the Population (Ages 5 and Older) 2013-2017



Source: United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B16005

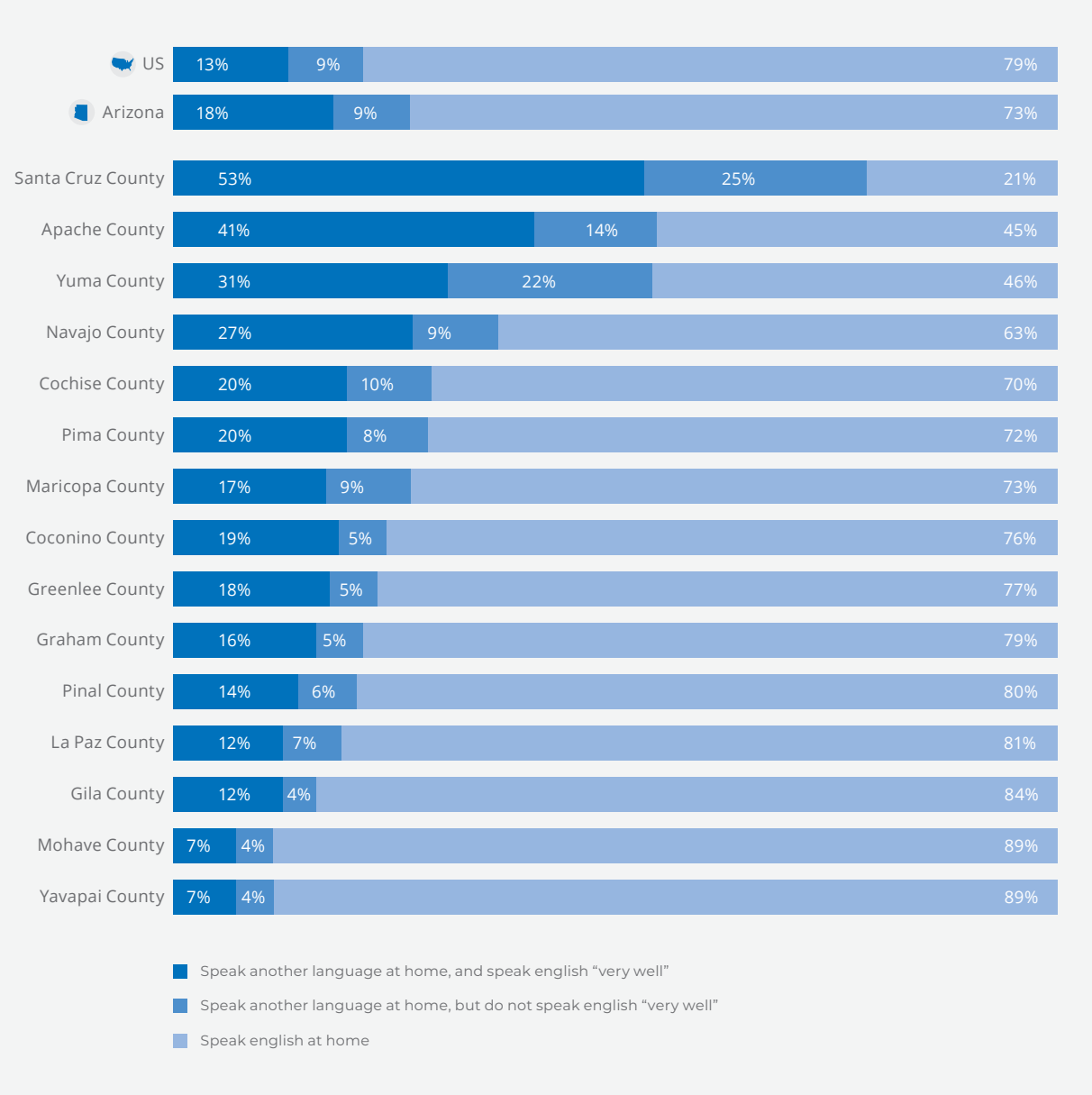
Demonstrating the diversity of cultural heritage in Arizona, of the counties where there are substantial proportions of bi- or multilingual residents, some counties are home to many native Spanish speakers (e.g., Santa Cruz and Yuma) and others are home to speakers of Native American languages (e.g., Apache and Navajo) (Figure 9). In addition to those who are multi-lingual, nearly all counties have at least 5% of residents who do not consider themselves as speaking English "very well" (see Figure 10). In Yuma and Santa Cruz, this rises to over 20% of residents. As previously mentioned, households with multiple languages spoken pose a unique balance of benefits for child learning and barriers to parental engagement which counties with high rates of other languages spoken should specifically consider. Acknowledging and valuing linguistic heritage (such as through language preservation efforts) and recognizing needs for resources and services in languages other than English should remain important considerations for organizations and agencies across Arizona.

Figure 9: Language spoken at home (ages 5 and older), 2013-2017



Source: ACS 2013-2017, Table B16001 Note: In many Arizona counties, speakers of "other languages" are most often speakers of Native American languages.

Figure 10: English-Language Proficiency for the Population (Ages 5 and Older) 2013-2017



Source: ACS 2013-2017, Table B16005

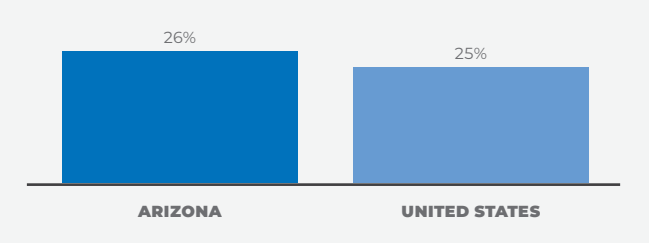
Family Structure

Understanding the makeup of families in a region can help better prepare child care, school, and agency staff to engage with families in ways that support positive interactions within families and with staff to enhance each child's early learning and development.[30]

Foreign-Born Parents

Over a quarter of Arizona's young children live in a family where one or both of their parents is foreign-born (26%), which is similar to the national estimate (25%; see Figure 11). Children of foreign-born parents represent one of the fastest growing groups of young children in the country.[31] Recent changes in national immigration policy have led some immigrant families to avoid using social services for fear of deportation or jeopardizing their legal status in the country.[32,33,34] Children in these families may be at particular risk of reduced access to medical care and increased food insecurity, both of which can lead to developmental delays that can have lasting impacts on a child's health and well-being.[35,36,37] In order to meet the needs of Arizona's families with foreign-born parents, particular attention must be given to culturally-appropriate awareness and education efforts to ensure families understand the supports for which they legally qualify.

Figure 11: Children (ages 0-5) living with one or two foreign-born parents, 2013-2017.

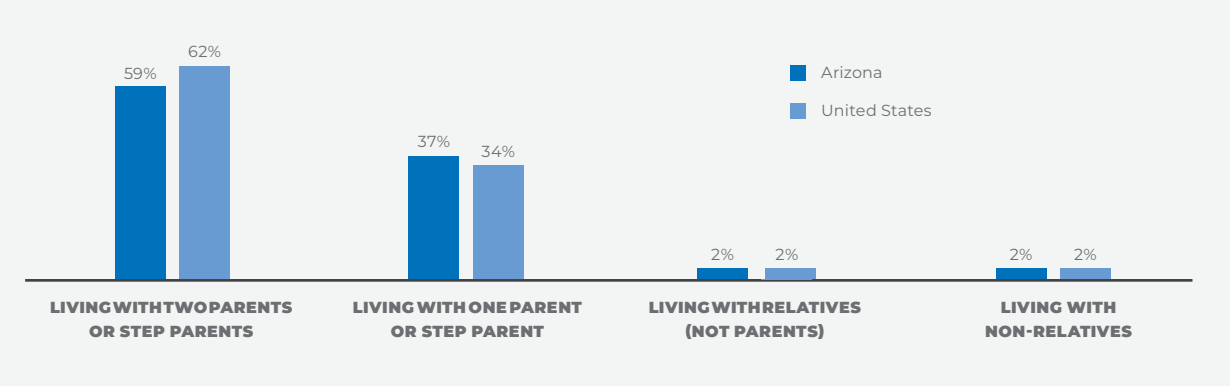


Source: United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B05009

Living Arrangements

In Arizona, approximately three out of five (59%) young children live with two parents or stepparents[b]; this is slightly lower than young children nationwide (62%). Just over one-third (37%) of young children in Arizona live with one parent, which is slightly higher than the rate nationwide (34%). The remaining children either live with a relative who is not their parent (2%) or with unrelated persons (2%). See Figure 12.

Figure 12: Living Arrangements for young children (Ages 0 to 5), 2013-2017

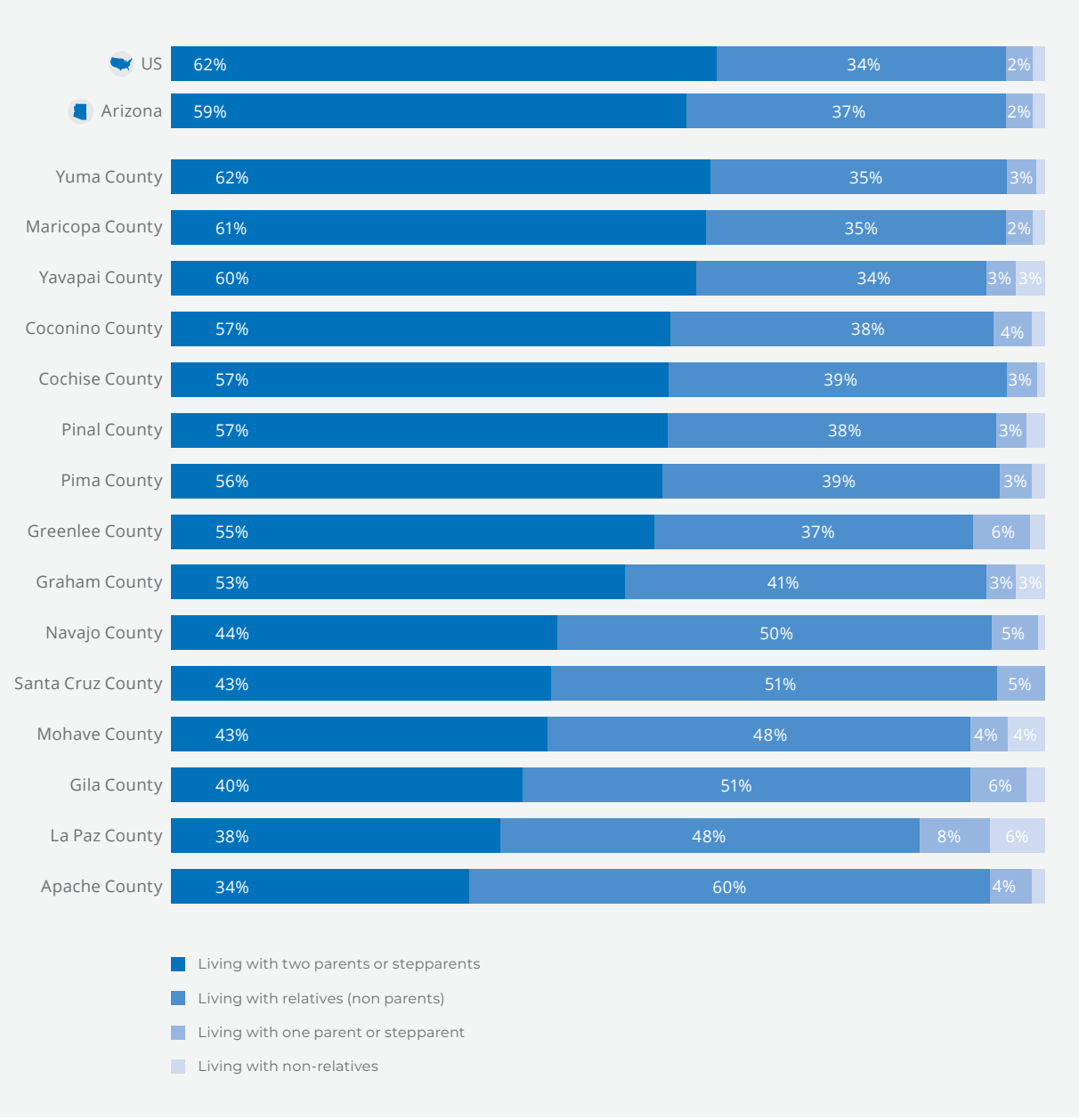


Source: ACS 2013-2017, Tables B05009, B09001, & B17006.

b. The American Community Survey does not distinguish between biological, adopted, and step-children when reporting data on 'own' children. A child is defined as including a son or daughter by birth, a stepchild, or adopted child of the householder.

The percentage of young children who live with two parents (or stepparents) ranges from 62% in Yuma County to 34% in Apache County (see Figure 13). Conversely, the percentage living with one parent (or stepparent) ranges from 60% in Apache County to 34% in Yavapai County. Except in La Paz County, at least 90% of young children live with either one or two parents. In La Paz, 8% live with a relative other than a parent and 6% live with an unrelated caregiver. Kinship-care families can face a unique suite of issues including navigating the logistics of informal guardianship (e.g., difficulties in registering children for school) to coping with parental absence to addressing the challenges of being an ageing caregiver for a young child.

Figure 13: Living arrangements for young children (Ages 0-5), 2013-2017



Source: ACS 2013-2017, Tables B05009, B09001, & B17006.

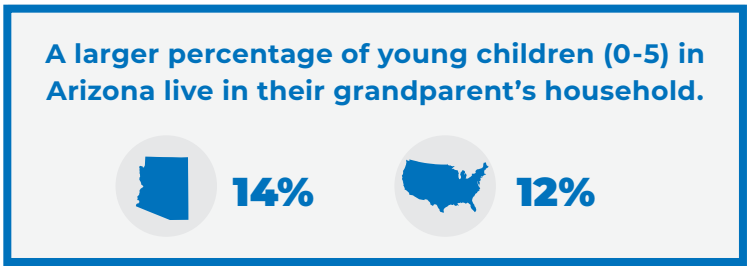
Nationwide, about two-thirds (67%) of households with young children have married parents, nearly a quarter (24%) are managed by a single female, and 9% are run by a single male. Many Arizona counties have similar statistics. However, in La Paz and Apache counties, just over half (53%) of households have married adults. Greenlee (20%), Mohave (16%), and La Paz (15%) counties have unusually high rates of households headed by single males; in fact, in Greenlee, there are more single males than single females heading households. This suggests that programs that focus solely on mothers and other female caregivers may automatically miss a large number of families; programs targeting fathers would benefit young children, as well, and these may need to consider the special circumstances of single dads. Nationally, single fathers tend to have higher incomes than single mothers, but they also have lower levels of education and are more likely to be living with a child's grandparent.[38] Father involvement in children's lives starting from before birth can have positive effects on children's health,[39] cognition,[40] and academic achievement.[41] Recent research is illustrating the positive effects of father-inclusive parenting education programs, including increased father involvement and improved co-parenting and partner relationship quality.[42,43]

Children living in kinship care, that is, living with a close friend or relative who is not a parent, can arrive in those situations for a variety of reasons, including a parent's absence for work or military service, chronic illness, drug abuse, incarceration, or due to abuse, neglect or homelessness. Understanding who is caring for children can help in identifying and creating specific supports for these families. Children in kinship care often face special needs as a result of trauma, and therefore these families often require additional support and assistance to help children adjust and provide the best possible home environment.[44]

Multi-generational Homes

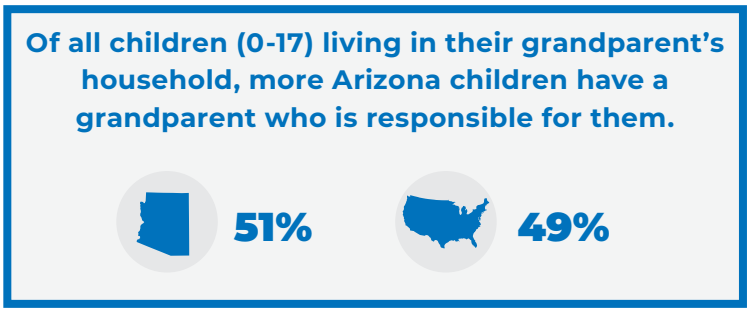
Multi-generational homes, traditional in some communities, are found across Arizona. About one in seven (14%) young children live in a grandparents' household in Arizona, a larger percentage than nationwide (12%; see Figure 14). Of all children (0-17) in Arizona and the U.S. living in their grandparents' household, about half are also being cared for by a grandparent who has assumed responsibility for them (Figure 15). Because children's risk of living in poverty is higher for those living with grandparents,[45] these families may require targeted outreach and information about resources, support services, benefits, and policies available to aid in their caregiving role.[46]

Figure 14: Percentage of young children (0-5) in Arizona living in their grandparent's household



Source: United State Census Bureau (2010). 2010 Decennial Census, Summary File 1, Table P41

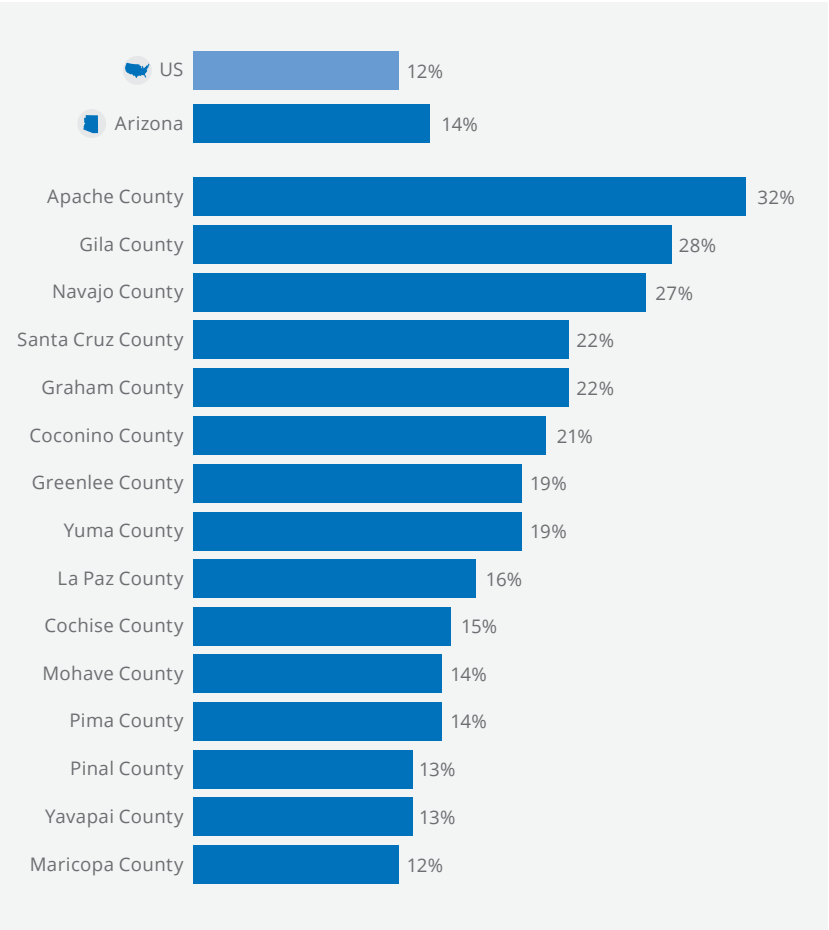
Figure 15: Percentage of all children (0-17) living in their grandparent's household whose grandparent is responsible for them



Source: ACS 2013-2017, Table B10002

More than one-quarter of all young children in Apache (32%), Gila (28%), and Navajo (27%) counties live in the household headed by their grandparent(s). The parents may or may not also live in that household. (see Figure 16). Each of these counties is home to Native communities. Though it varies from one to another, extended, multigenerational families and kinship care are more typical in Native communities.[47,48,49]

Figure 16: Children (Ages 0-5) living in their grandparent's household, 2010



Source: State Census Bureau (2010). 2010 Decennial Census, Summary File 1, Table P41

Data Summary: Economic Circumstances

Why it Matters

An important indicator of child well-being, economic stability is a key social determinant of health.[50] Children from higher-income homes tend to fare better on a variety of health and socioeconomic outcomes across the life course, from lower rates of conditions like depression and diabetes, to higher school completion rates and future earnings.[51,52,53,54] Poverty can negatively affect the way children grow and develop, including fundamental changes to the architecture of the brain.[55] As such, children in impoverished homes are at a greater risk of a host of negative outcomes that include being born at a low birth weight, lower school achievement, and poor health.[56,57,58,59,60] They are also more likely to remain poor later in life, passing along these challenges to future generations.[61,62] Social safety-net programs such as the federally-funded Supplemental Nutrition Assistance Program (SNAP; also referred to as "nutrition assistance" and "food stamps"),[63] the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC),[64] and Temporary Assistance for Needy Families (TANF),[65] along with programs such as KidsCare (the state children's health insurance program),[66] child care subsidies, and housing support, aim to minimize the impacts of poverty on child and family well-being.[67] Though these are important funding programs for families, not all key costs are covered. For families of young children in particular, the fact that SNAP and WIC funds cannot be used to purchase diapers can present a major financial burden.[68] In addition to the limited scope of supports that are widely available, policy changes can impact families' willingness to seek out assistance from public programs. One example is the national conversation around immigration and the proposed changes to the public charge rule, a provision in immigration rules that could deny lawful admission to people that immigration officials deem to be over reliant on public assistance.[69,70] This conversation appears to be driving immigrant families who would otherwise be eligible for programs away from participating.[71,72,73]

Other factors related to economic stability include employment and housing.[74] Unemployment (and underemployment[c]) can limit access to resources like health insurance – typically provided by employers – that support children's health and well-being. Unemployment can also contribute to family stress, conflict, homelessness, and child abuse.[75,76] Similarly, housing instability can have harmful effects on the physical, social-emotional, and cognitive development of young children.[77] Traditionally, housing has been deemed affordable for a family if it costs less than 30% of their annual income.[78] High housing costs, relative to family income, are associated with increased risk for overcrowding, frequent moving, poor nutrition, declines in mental health, and homelessness.[79,80] This high relative cost leaves inadequate funds for other necessities, such as food and utilities.[81]

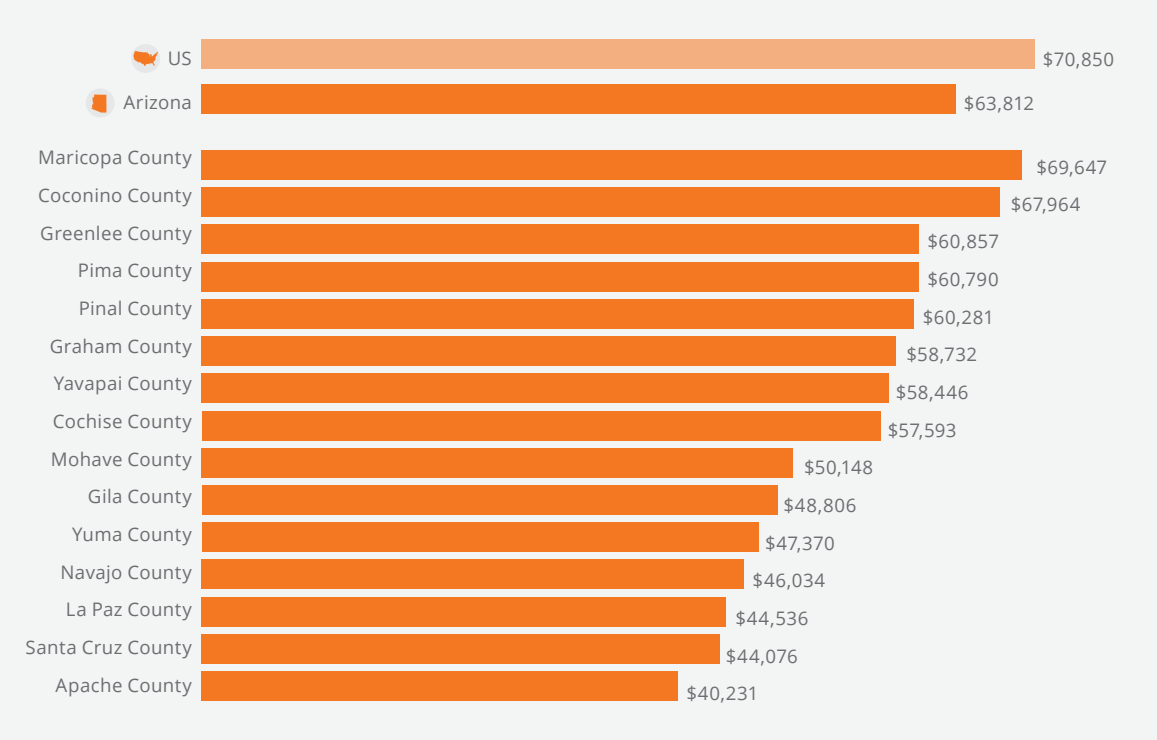
c. Underemployment means that someone works fewer hours than they would like or is in a job that does not require the skills or training that they have.

How Arizona's Young Children Are Faring

Income and Poverty

The median family income in Arizona is $63,812, about $7,000 lower than the U.S. median family income of $70,850 (see Figure 17). Incomes in all Arizona counties fall below the national benchmark, though Maricopa County residents most closely approach it, with a median family income of $69,647.[d] Median incomes elsewhere are substantially lower, dropping to $40,231 in Apache County.

Figure 17: Median Annual Family Income (in 2017 inflation-adjusted dollars)



Source: United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B19126

Median income varies substantially by family type. Married parents with children (ages 0-17) in Arizona earn a median income of $80,533. Single-male-headed families earn less than half that – $38,650, and single-female-headed families earn about a third of that – $26,907.

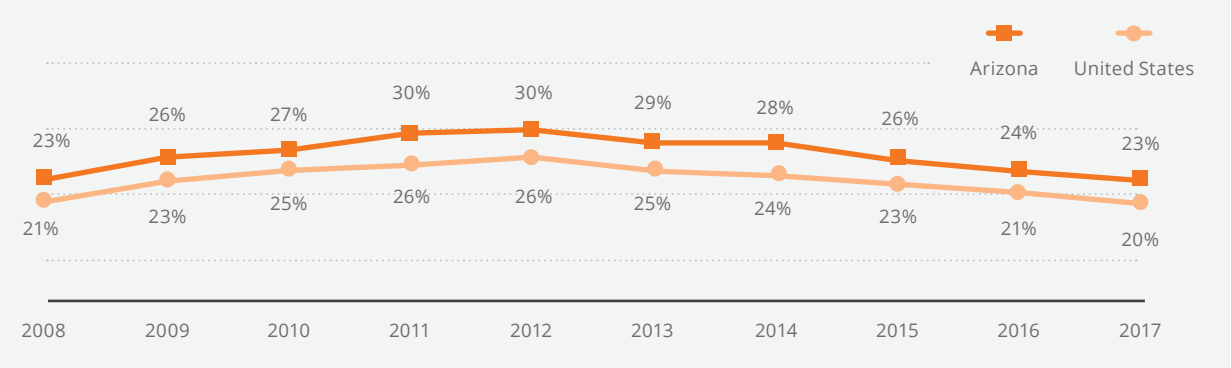
Accordingly, the definition of poverty in the United States depends on family size and composition. In 2017, a family of two adults and two children earning an income lower than $24,858 was considered to be in poverty according to U.S. Census definitions.[e,82] Compared to the U.S. as a whole, Arizona consistently has a higher proportion of young children who live in poverty (Figure 18). Arizona also has a higher proportion of children (0-17) living in concentrated poverty (20%), defined as Census tracts with overall poverty rates of 30% or more, than the nation as a whole (12%).[83] Only two states, New Mexico (24%) and Mississippi (24%), as well as the District of Columbia (25%) and Puerto Rico (84%), have higher concentrated poverty rates than Arizona.

d. According to the American Community Survey and Puerto Rico Community Survey 2017 Subject Definitions, a family consists of two or more people living together who are related to each other by birth, marriage, or adoption.

e. The 2017 federal poverty threshold is used here to align with American Community Survey data used throughout this report.

Following the national trend, child poverty rates in Arizona have been steadily declining since 2012. In 2017, the percentage of Arizona's young children living in poverty decreased to 23%, the lowest it has been since the Great Recession (see Figure 18). Despite these promising gains, still more than one out of every five young children in Arizona lives in poverty, a fact that has significant implications for the future of the state, both in terms of the health and well-being of its residents and its economy.

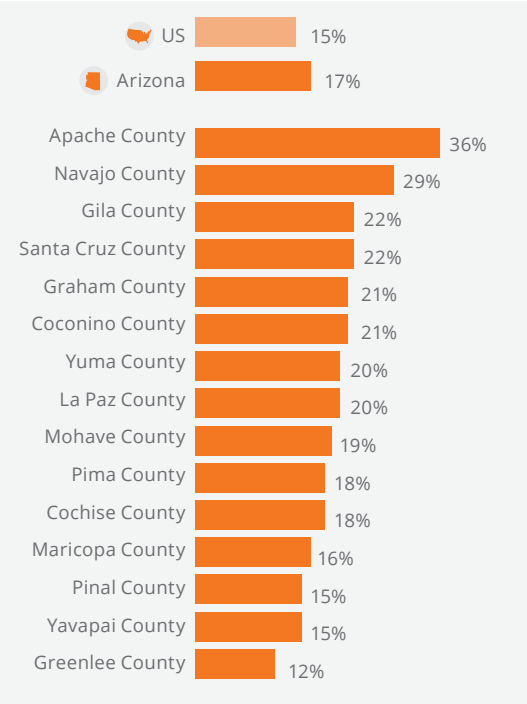
Figure 18: Children (ages 0-5) living in poverty in Arizona and the United States, 2008 to 2017



Source: U.S. Census Bureau (2019). 2005-2017 American Community Survey Single Year Estimates, Table B17001. Retrieved from www.factfinder.census.gov

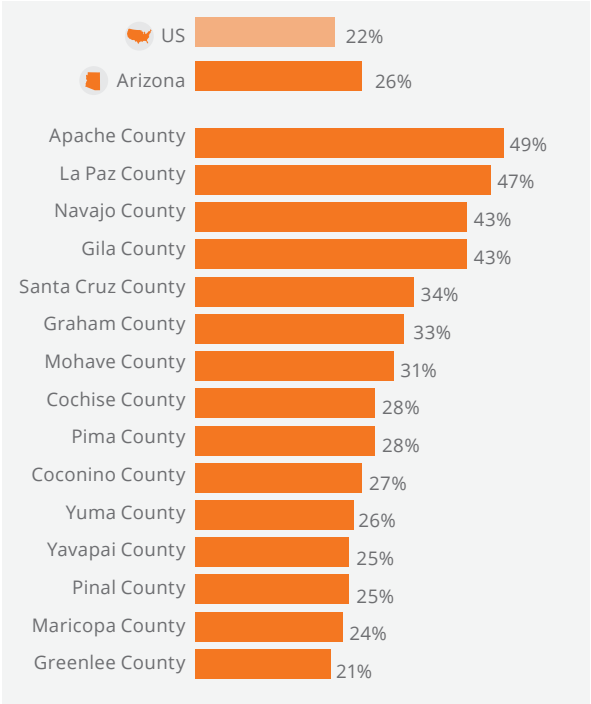
Though people across Arizona struggle with high rates of poverty, certain counties have especially high rates (see Figure 19). Over a quarter of the entire population in Apache (36%) and Navajo (29%) counties live in poverty. Families with young children are in particularly dire economic circumstances (see Figure 20). Over a third of young children in Gila (43%), Navajo (43%), and Santa Cruz (34%) counties live in poverty. In Apache County (49%) and La Paz (47%) nearly half of young children live in poverty. In all but one county (Greenlee), the rate of young children in poverty is higher than the nationwide rate, suggesting that programs that support low-income families are especially important to the future of Arizona.

Figure 19: Percent of Population in Poverty (All Ages)



Source: United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B17020

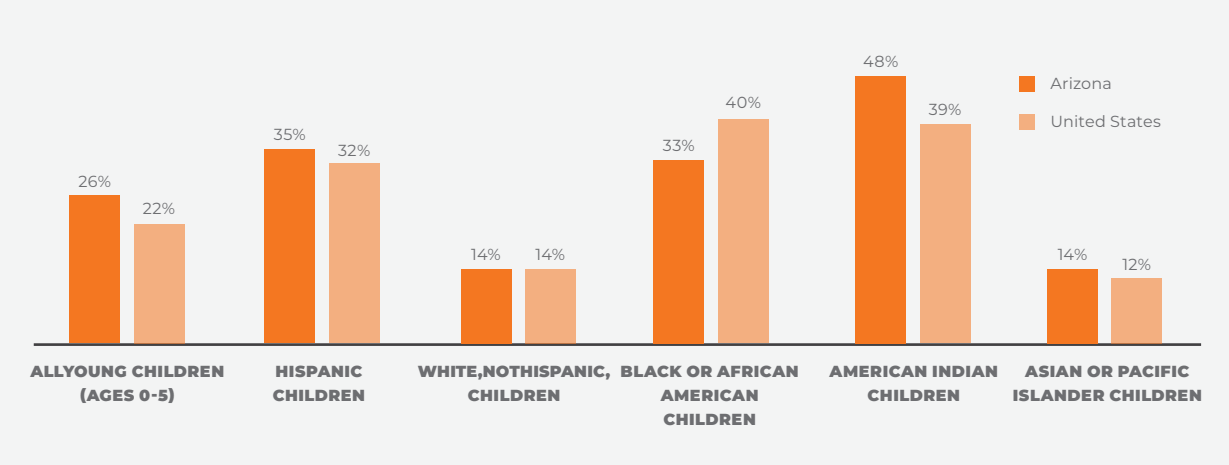
Figure 20: Percent of Population of Young Children (Ages 0-5) in Poverty



Source: United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B17020

For children under 5, poverty varies substantially by race and ethnicity, with the highest rates of poverty among Black (40%), American Indian (38%), and Hispanic (32%) young children nationally (see Figure 21). In Arizona, poverty rates among American Indian (48%), Hispanic (35%), and Asian or Pacific Islander (14%) children are higher than national averages.

Figure 21: Percent of Young Children (Ages 0-5) Living in Poverty by Race/Ethnicity



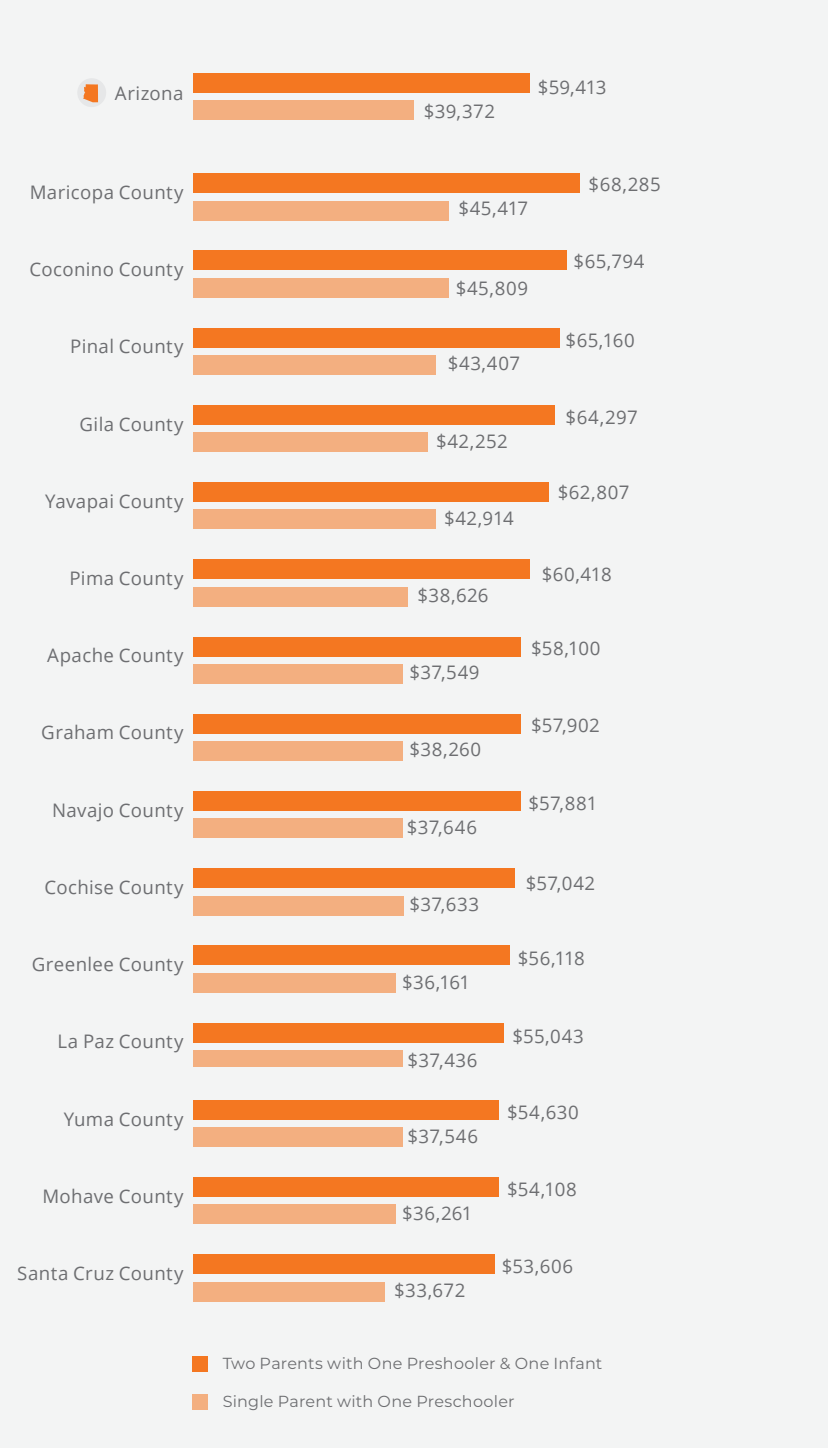
Source: ACS Five-Year Estimates (2013-2017), Tables B17020, B17020-B, B17020-C, B17020-D, B17020-E, B17020-H, & B17020-I

It is important to note that the number of families and young children who live in poverty by official definitions (i.e., the federal poverty level) far underestimates the number of children in families who struggle to make ends meet. As a benchmark, the 2019 federal poverty guideline – the criterion used for establishing eligibility for some safety net programs – for a family of four was $25,750.[f,84] However, the federal poverty guideline definition of poverty was developed in the 1950s, and estimates only what a family would need to earn to afford basic nutrition, without taking into account other costs of living; it is widely considered to be well below what a family actually needs to earn to make ends meet. The "self-sufficiency standard" attempts to estimate how much families need to earn to fully support themselves, accounting for local costs of housing, transportation, child care, and other budget items.[85] The 2018 statewide average self-sufficiency standard[g] for an Arizona family with two adults, one preschooler, and one infant was $59,413 – over twice the federally-defined poverty level (see Figure 22).[86] All counties in Arizona have self-sufficiency standards that are more than twice the federally-defined poverty level. The self-sufficiency standards are highest in Maricopa ($68,285) and Coconino ($65,794) and lowest in Santa Cruz ($53,606) and Mohave ($54,108) counties.

f. The Federal poverty guideline, also known as the federal poverty level, mentioned here, is slightly different than the poverty threshold mentioned above. While the two values both depend on family size and composition and are roughly the same, the exact values are slightly different for a given family. The threshold is used by the U.S. Census when reporting whether or not a family or person lives in poverty, whereas the guideline is the value used by safety net programs when calculating eligibility.

g. Self-sufficiency standards are calculated at the county level.

Figure 22: 2018 Self-Sufficiency Standard

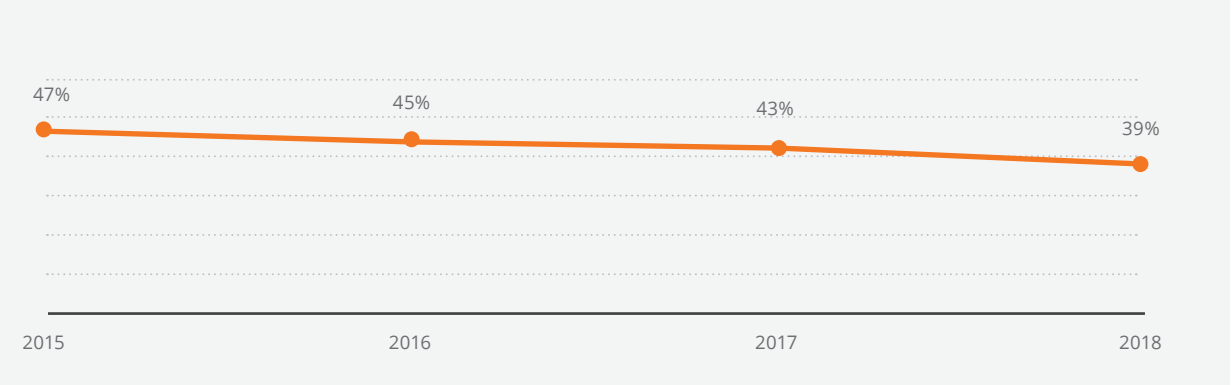


Source: Pearce, D.M. (2019) The Self-Sufficiency Standard for Arizona 2018.
Available online at: www.womengiving.org/wp-content/uploads/2019/08/AZ18_SSS_Update-1.pdf

The gap between the thresholds of low income needed to qualify for public supports and the substantial income needed to actually support a family can also lead to a "benefits cliff"[87] for low-income families. The benefits cliff occurs when a low-income earner gets a boost in earnings – either through a raise, working additional hours, or other means – and thus becomes ineligible for programs, like SNAP, WIC, or AHCCCS, that they previously qualified for even if the additional earnings cannot make up the difference in the family budget. Thus, many families who may not technically be living in poverty or be considered low-income may still face substantial economic hardship.

The proportion of families with young children who participate in SNAP has dropped in recent years. Between 2015 and 2018, the number of Arizona families with young children receiving SNAP decreased by nearly 16% (see Figure 23). This likely reflects the continuing economic recovery from the Great Recession,[88] but other factors may also mean that those who would be eligible for SNAP and other benefits have not been seeking them in recent years. For example, policy changes at a national level, such as the "public charge rule"[h] set to be enacted in October 2019 (see Page 19), may deter families – particularly those with a recent history of immigration – from using available supports for which they legally qualify.[89,90] For instance, at the national level, although the overall SNAP participation rate remained steady, the SNAP participation rates of eligible citizen children of non-citizen adults showed a recent significant decrease, from 83% in FY2015, to 81% in FY2016, to 74% in FY2017.[91] This has direct implications for the nutrition of young children.[92]

Figure 23: Families with young children (ages 0-5) receiving SNAP, 2015-2018

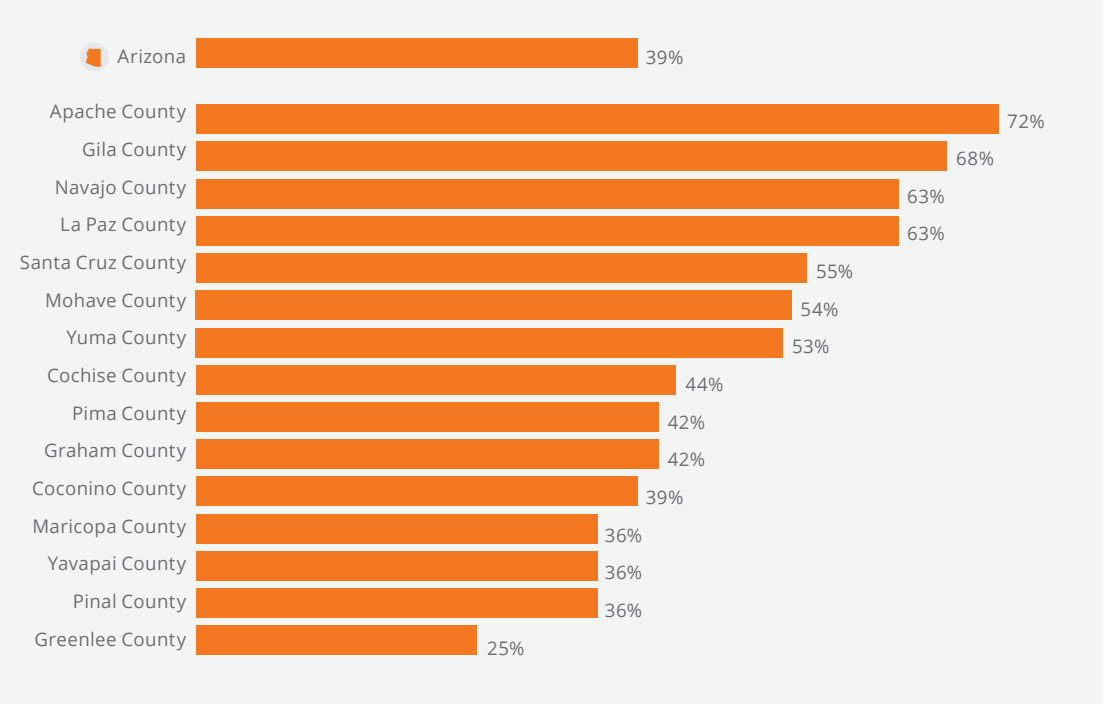


Source: Arizona Department of Economic Security (2019). 2015-2018 Family Assistance Administration Data. Unpublished data received by request.

h. U.S. Citizenship and Immigration Services defines "public charge" as an individual who is likely to become "primarily dependent on the government for subsistence, as demonstrated by either the receipt of public cash assistance for income maintenance, or institutionalization for long-term care at government expense."

Though the proportion of families with young children who receive SNAP benefits declined in all counties between 2015 and 2018, in seven of Arizona's counties, over half of the families with young children still receive SNAP benefits (Figure 24).

Figure 24: Percent of Families with Young Children Receiving SNAP, 2018



Source: Arizona Department of Economic Security (2019). 2015-2018 Family Assistance Administration Data. Unpublished data received by request.

Employment

60% of young children in Arizona live in households where all residential parents are in the workforce (that is, are employed, or actively seeking paying work). This includes children in households with a single-parent in the labor force (29%) and dual-earner households (31%) (see Figure 25 & Figure 26). In other words, the majority of Arizona households with young children likely require some form of child care. Yet, the Center for American Progress estimates that 48% of Arizonans live in a "child care desert," defined as an area where there are at least three times as many children as there are child care slots, meaning that the absence of accessible, affordable child care may be a barrier to employment.[93] In Arizona, the majority of rural families (67%), low-income families (59%), and Hispanic/Latino families (55%) live in a child care desert, making them disproportionately impacted by barriers to child care and therefore barriers to employment.

Figure 25: Employment status of parents of young children, Arizona, 2013-2017

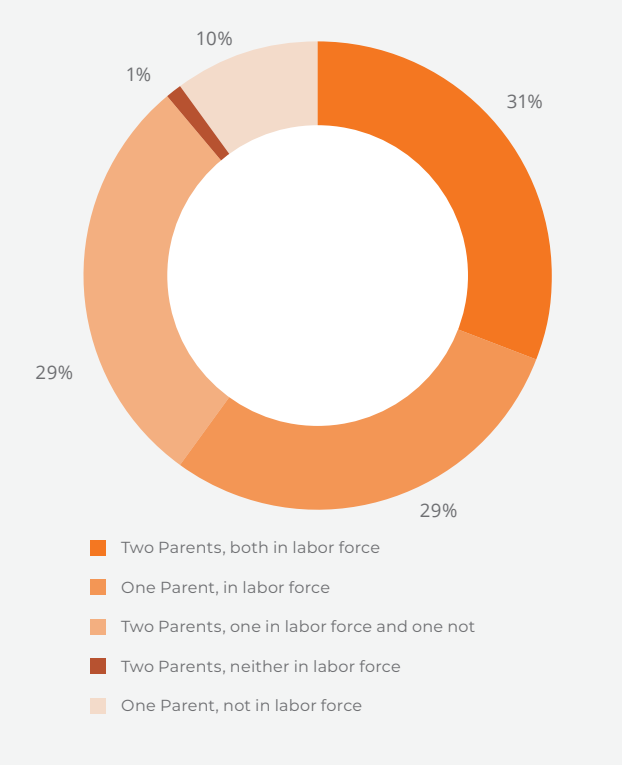
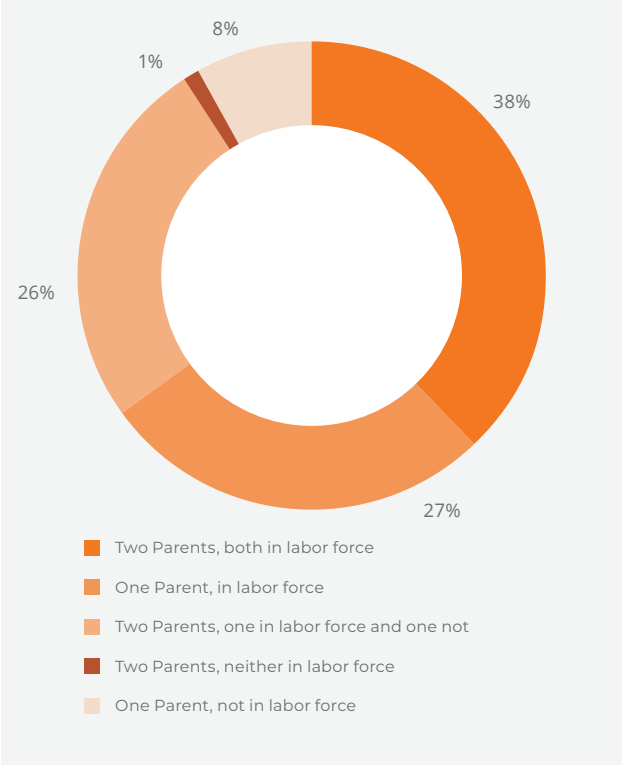


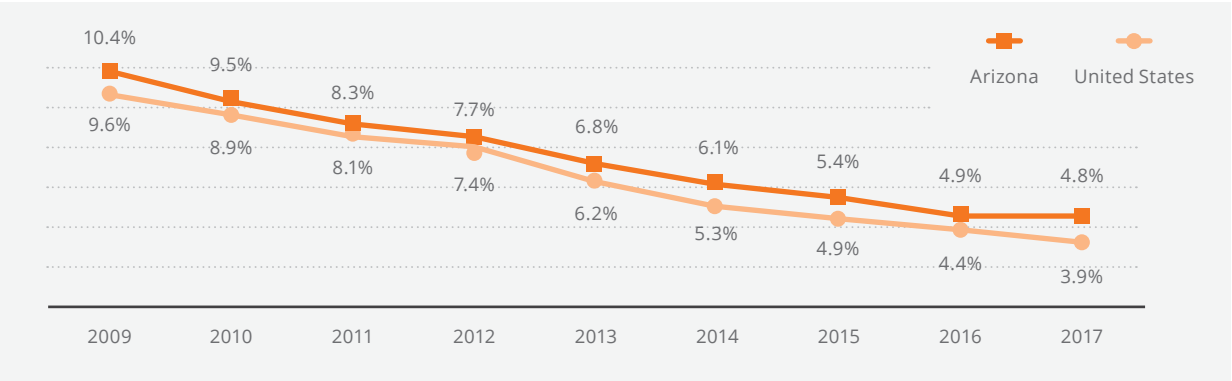
Figure 26: Employment status of parents of young children, US, 2013-2017



Source: United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B23008

Nationwide, unemployment rates have declined steadily since the end of the Great Recession. During the recovery, Arizona's unemployment rate has remained consistently higher than the national rate (see Figure 27). The percentage of Arizonans who were unemployed in 2018 was just under 5% compared to under 4% nationally. Note that this does not include persons who have dropped out of the labor force entirely, including those who wanted to but could not find suitable work and thus have stopped looking for employment.[i]

Figure 27: Annual Unemployment Rates, Not Seasonally Adjusted (BLS), 2010 to 2018

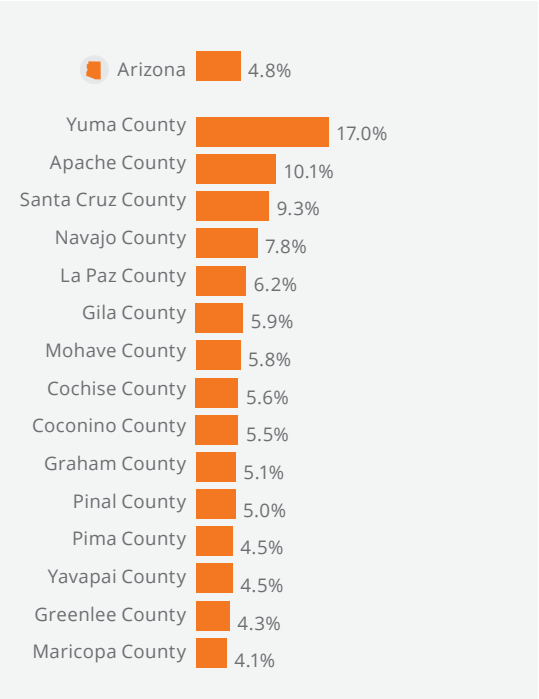


Source: Bureau of Labor Statistics. Labor Force Statistics from the Current Population Survey. Retrieved from www.bls.gov/cps/tables.htm#annual

i. *For a discussion of current trends in labor force participation versus employment, see Uchitelle, L. (July 11, 2019). "Unemployment Is Low, but That's Only Part of the Story." Retrieved from https://www.nytimes.com/2019/07/11/business/low-unemployment-not-seeking-work.html*

All Arizona counties had unemployment rates higher than the national unemployment rate (3.9%) in 2018 (Figure 28). In a few counties, unemployment rates reached two to four times that of the national level. For example, in Yuma, the unemployment rate reached 17% – the highest unemployment rate among all of the 389 U.S. Metropolitan areas.[94] Furthermore, Yuma has a large agricultural labor force, making for large swings in seasonal employment (e.g., a low of 12.1% in March 2019 to a high of 22.1% in June 2019).[95] As discussed earlier, the unemployment rate reflects those individuals actively seeking work and does not include those who have dropped out of the labor force.

Figure 28: Annual Unemployment Rates by County, 2018

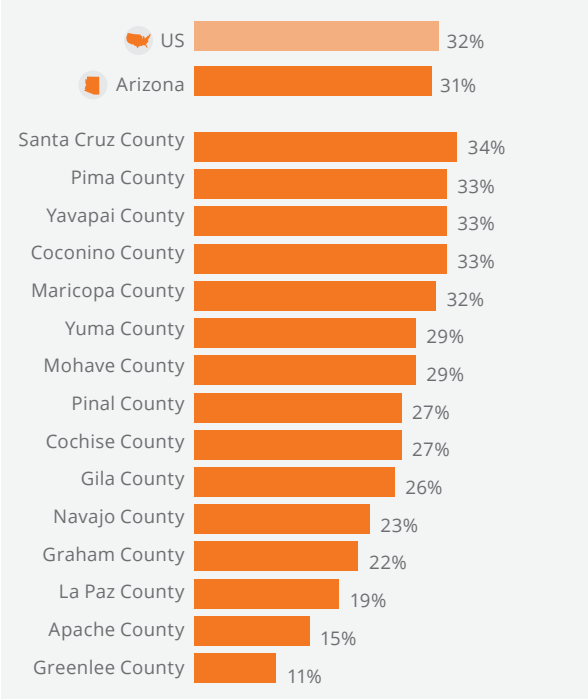


Source: Arizona Labor Statistics (2019). Local Area Unemployment Statistics (LAUS). Retrieved from www.laborstats.az.gov/local-area-unemployment-statistics

Housing

Traditionally, housing has been deemed affordable for a family if it costs less than 30% of their annual income.[96] Compared to many areas of the U.S., Arizona is perceived to have a relatively low cost of living. However, in most Arizona counties, more than a quarter of households have housing costs that would be considered unaffordable – that is, households spend 30% or more of their income on housing (see Figure 29). For Santa Cruz, Pima, Yavapai, and Coconino counties, this is a reality for at least one-third of households. This amount of income spent on housing leaves less available for food, utilities, early education programs, and other supports that help young children thrive. Additionally, high housing costs, relative to family income, are associated with increased risk for overcrowding, frequent moving, poor nutrition, declines in mental health, and homelessness.[97,98]

Figure 29: Percent of Households Paying 30% or More of Income for Housing Costs

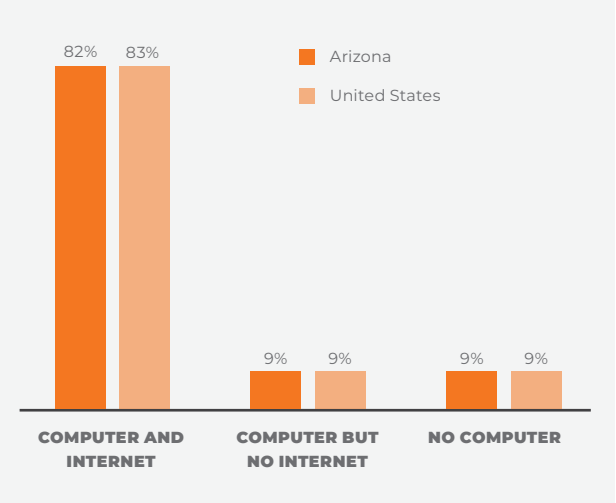


Source: ACS 2013-2017, Table B25106

Information Access Through Computers and Internet

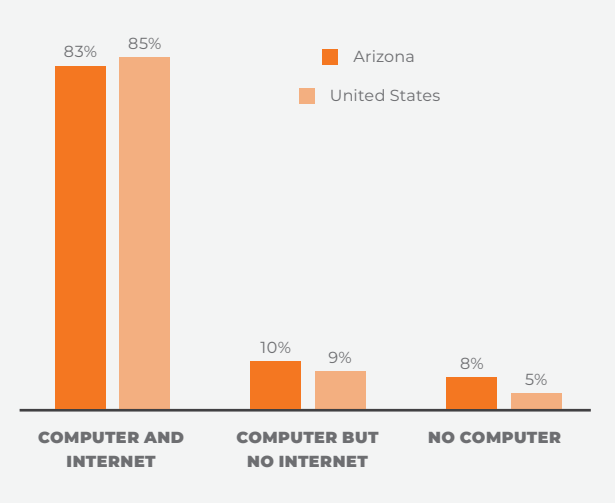
In today's society, access to the internet provides resources, information, social connection, and opportunities critical for education and employment. Disparities in access to computers and the internet is called the digital divide.[99] Lack of sustained access to information and communication technologies in low-income communities is associated with economic and social inequality.[100] When children enter school, computer and internet access are increasingly important for completing school assignments and projects.[101] In Arizona as compared to the U.S. as a whole, slightly fewer people have home access to computers with internet connection (82% vs. 83%) (see Figure 30). This gap is larger for households with children 17 years and younger (83% in Arizona compared to 85% nationally; see Figure 31). Children in only five of Arizona's 15 counties have access rates comparable to national rates– Greenlee, Yavapai, Pima, Cochise, and Mohave (Figure 32). In four counties (Apache, La Paz, Navajo, and Gila), over a third of children lack access to the internet.

Figure 30: People (All Ages) Living in a Household With and Without Computer and Internet Connection, 2013-2017



Source: United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B28005

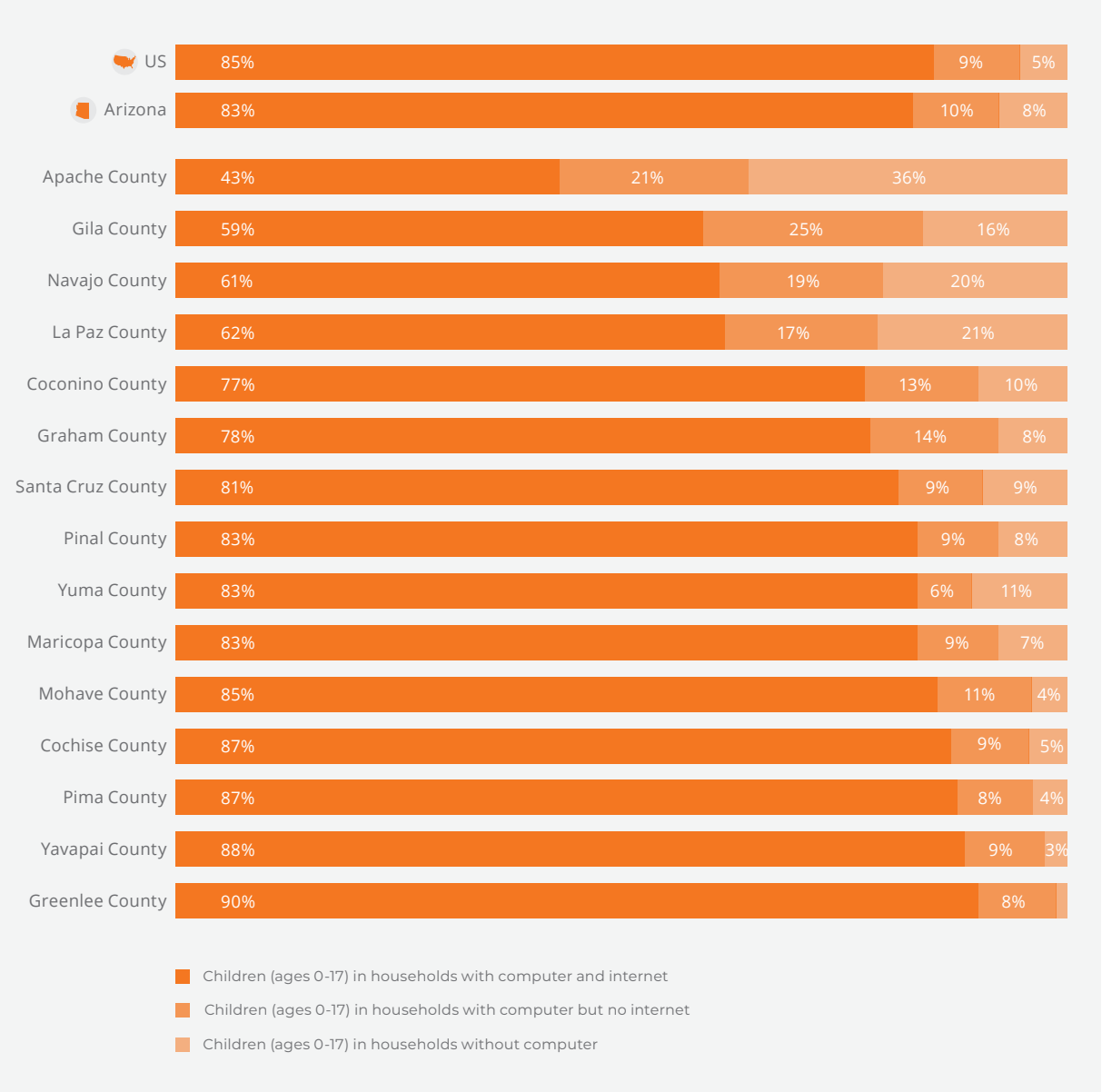
Figure 31: Children (Ages 0-17) Living in a Household With and Without Computer and Internet Connection, 2013-2017



Source: United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B28005

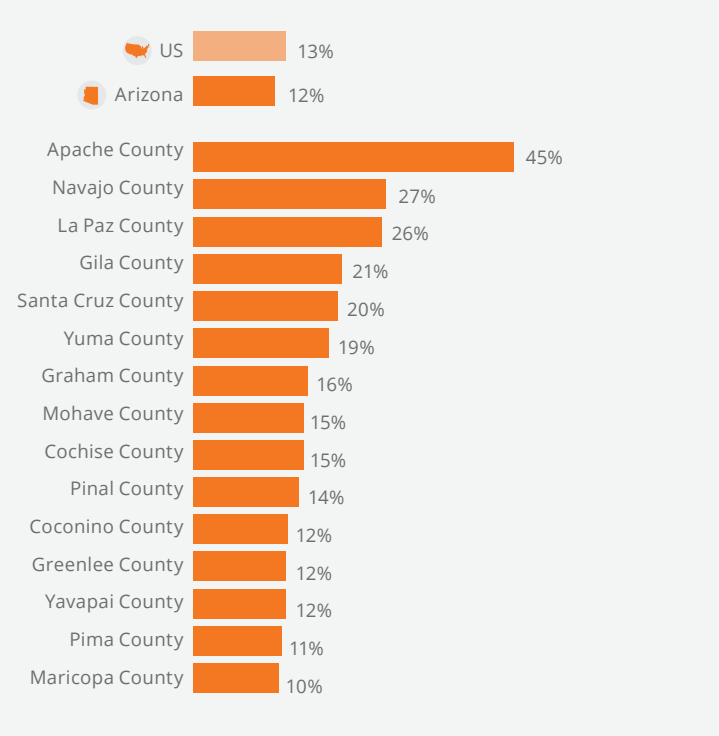
In many rural parts of the state, even those families with internet access and a computer may find connectivity frustratingly slow or inconsistent.[102] Households in rural areas typically experience more limited coverage from mobile networks and slower-speed internet services.[103] While smartphones are replacing computers in some families, many households still lack both (Figure 33). Given that families increasingly use communication and information technologies to access information, connect socially, pursue education, and apply for employment opportunities, this gap in the ability to connect will likely perpetuate the economic divide unless concerted efforts are made to improve access. Meanwhile, it is important for state and local agencies to recognize that there are disparities in internet access and ensure that families can be reached and can obtain information about services through other means, including telephone or mail.

Figure 32: Children (Ages 0-17) Living in a Household With and Without Computer and Internet Connection, 2013-2017



Source: United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B28005.

Figure 33: Percent of Households With Neither Smartphone Nor Computer (Desktop or Laptop)



Source: United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B28010

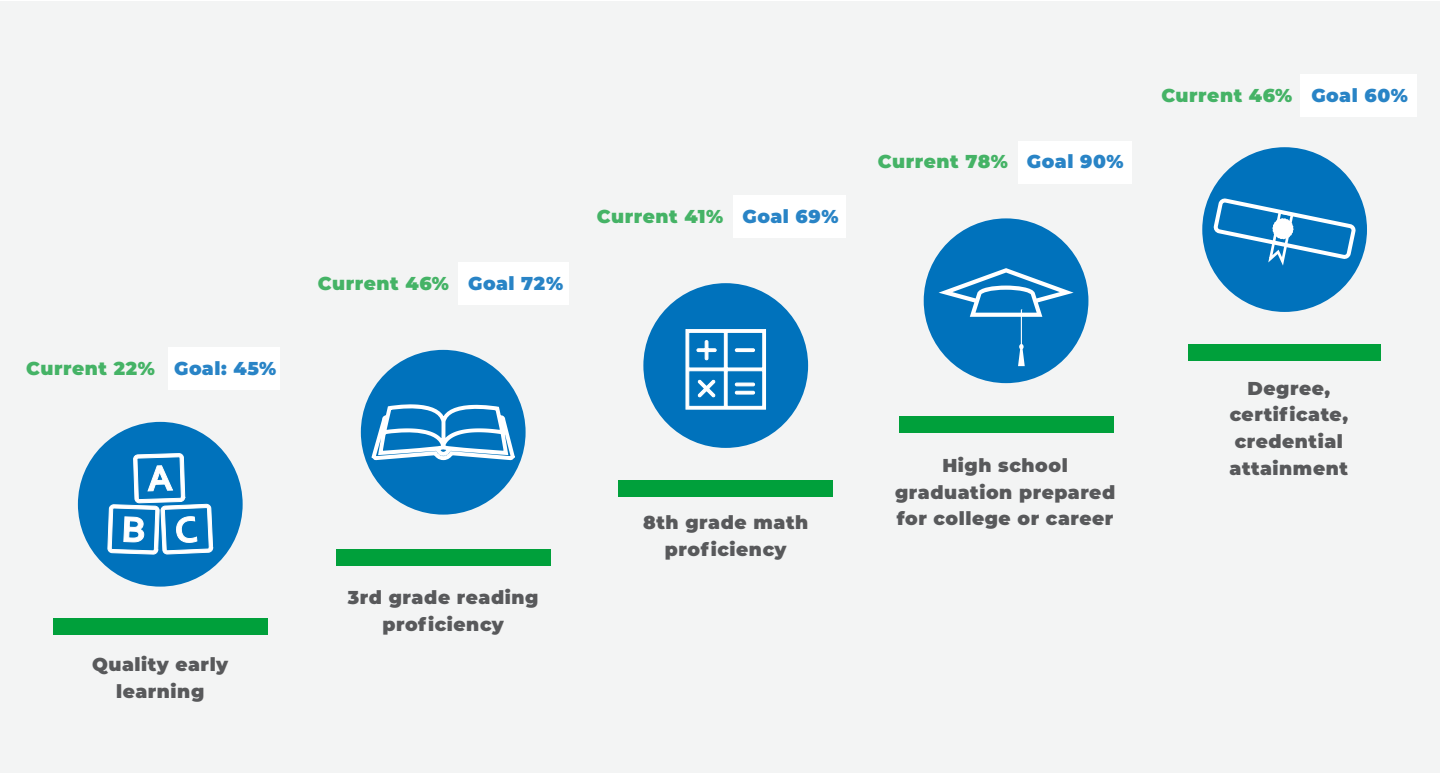
ISSUE ESSAY

Language & Literacy: The Foundation of Success

In 2016, Expect More Arizona and the Center for the Future of Arizona – with support from business leaders, educational organizations and community supporters, including the First Things First Board – worked to develop a unified vision of what a "world class education" looks like for Arizona's children. They also worked to develop a set of common measures that could be used to monitor Arizona's progress in moving our students toward an ultimate goal: ensuring that 60% of Arizonans have a certificate or college degree by 2030.

This consistent framework for gauging our children's educational success is called the Arizona Progress Meter and can be used by elected leaders when making policy and funding decisions; by businesses and philanthropic organizations in targeting their investments; and by communities when developing partnerships and building educational systems that support student success. The Progress Meter consists of a variety of measures, including eighth-grade math proficiency and high school graduation. But perhaps the most vital measures – the ones that form the foundation for later success – are access to early learning and third-grade reading proficiency. These underscore the importance of language development and early literacy to children's lifelong success.

Key Measures from the Arizona Progress Meter



Language and early literacy abilities, which develop from birth, are directly related to later reading abilities, and reading is the foundational skill for success in school. The National Association for the Education of Young Children says early literacy skills are an excellent litmus test for a child's future performance: "One of the best predictors of whether a child will function competently in school and go on to contribute actively in our increasingly literate society is the level to which the child progresses in reading and writing. Although reading and writing abilities continue to develop throughout the life span, the early childhood years – from birth through age 8 – are the most important period for literacy development."[i]

More specifically, reading proficiency by third grade is a crucial milestone in a child's future academic success. Third-grade reading level is a strong predictor of ninth grade course performance, high school graduation and college attendance. According to the National Research Council for the National Academies, "Academic success, as defined by high school graduation, can be predicted with reasonable accuracy by knowing someone's reading skill at the end of third grade. A person who is not at least a modestly skilled reader by that time is unlikely to graduate from school."[ii]

Improving Third-Grade Reading Outcomes in Arizona

Arizona has taken several significant steps to address the urgent need for dramatic improvement in reading proficiency among our state's third-grade students.

In 2010, Arizona enacted Move On When Reading, legislation designed to identify struggling readers early and help schools provide effective literacy supports in grades K-3. Schools submit detailed literacy plans to the Arizona Department of Education, and funding (approximately $40 million annually) is allocated to support targeted instruction and interventions focused on the five pillars of literacy (i.e., phonological awareness, phonics, fluency, vocabulary and comprehension) to help students achieve third-grade reading success.

While the primary focus of the law is to expand access to evidence-based, effective reading instruction for struggling readers, as early as possible, Move On When Reading also includes a retention policy for students reading well below grade level at the end of third grade. A.R.S. § 15-701(A(2)(a) prohibits advancement to the fourth grade "if the pupil obtains a score on the reading portion of the statewide assessment that does not demonstrate sufficient reading skills as established by the state board." Exceptions exist for students with learning disabilities, English language learners, and those with reading deficiencies. The 2013- 2014 school year was the first that children could be retained under the new law; in the 2016-2017 school year, 842 students (about 1% of third-grade students) were retained. [iii]

To further accelerate progress, a unique collaboration of state agencies, (including First Things First), philanthropic partners and community stakeholders, launched Read On Arizona in 2013 as our state's early literacy initiative. Working together, partners in Read On Arizona take a collective impact approach to improving language and literacy outcomes for Arizona's children from birth to age 8, with strategic focus on school readiness and third-grade reading proficiency.

Read On Arizona's ten-year strategic plan highlights the key levers for reaching our shared goal of 72% of Arizona's third-grade students reading proficiently by 2030: data integration and analysis; effective teaching and learning, including language and literacy strategies from birth to age 8, screening and assement, professional development, and family engagement; collaboration and sustainability; policy; and communications.

The Read On Arizona collaboration provides leadership at the state level through an advisory board consisting of members from the founding partners (FTF, Arizona Department of Education, Arizona Community Foundation, Helios Education Foundation, Virginia G. Piper Charitable Trust) as well as the Arizona State Board of Education, the Governor's Office of Education, several philanthropic organizations and other key literacy stakeholders.

Since its inception, Read On Arizona has developed a variety of tools and resources to help accelerate the improvement of language and literacy outcomes for Arizona's young children. Among those are:

- Data tools including MapLIT, an interactive mapping tool as a "one stop" resource to identify key data sets (Census, school, health, family engagement, chronic absenteeism) and trends that impact early literacy outcomes in communities. MapLIT provides communities with graphic views of select data for all Arizona public/charter elementary school and preschool site locations.
- *A Continuum of Effective Literacy Practices*, a guide for practitioners, to serve as a framework for implementing high-quality early literacy programs.
- Smart Talk, an awareness campaign that helps parents and caregivers learn how to incorporate quality, back-and-forth conversations with babies and toddlers into everyday activities to support language and early literacy development.

Read On Arizona also supports local literacy efforts through a network of 25 Read On communities. While every community is different in their approach and tactics, each of the Read On communities demonstrates a collaborative approach to making school readiness and grade-level reading a priority. With technical assistance from Read On Arizona, each works with a vast array of local stakeholders, including schools and school districts, local governments, early learning programs, businesses, faith communities and non-profit organizations working directly with families. Each applies the same strategic approaches of the statewide Read On Arizona collaboration to coordinate and maximize their collective efforts.

Taken together, our state's strategic, collaborative approach to improving language and literacy outcomes is producing positive results. Data from Arizona's annual statewide assessment, AzMERIT, showed that 46% of Arizona's third-grade students scored proficient or highly proficient in English Language Arts in 2019, up from 40% in 2015, (the first year AzMERIT was administered). While these results are significant and encouraging, much work remains to be done to reach our shared goal of 72% of Arizona's third-graders reading proficiently by 2030.

Third-Grade Reading Success Starts *Before* Kindergarten

Research shows that early reading experiences, opportunities to build vocabularies, and literacy-rich environments are the most effective ways to support the language and literacy development of infants, toddlers and preschoolers, so that they will be prepared to meet state expectations in kindergarten and beyond.

The seminal work of Hart and Risley provides a deeper understanding of the critical role the early years play in developing literacy skills. Their work shows that the foundations of literacy are established early, and that later interventions in school (even after the age of 3) may be too late to close gaps caused by the lack of early literacy experiences.[iv] Hart and Risley studied and carefully recorded the number of words spoken in the homes of very young children. Their findings show significant differences in both the quantity and quality of words adults spoke with children.

While Hart and Risley's research findings are presented in relation to socioeconomic status, in a subsequent interview, Risley points out that – above income or race – it is the amount and quality of the communication that parents have with their children that matters. Dr. Risley summed this up well in a subsequent 2005 interview with Children of the Code: "Now, the interesting thing is that when we look at the amount of talking the parents are doing, and the amount of extra talk they are doing over and above business talk [instrumental talk about daily activities, such as, please put on your coat or don't touch that], nothing is leftover relating to socioeconomic status. Some working poor people talked a lot to their kids, and their kids did very well. Some affluent business people talked very little to their kids, and their kids did very poorly. All of the variation in outcomes [is] taken up by the amount of talking in the family to the babies before age 3." [v]

And, the quality of those interactions, including the rich variety of words a child is exposed to, matters. Early language experiences have a profound impact on vocabulary. By the time they reach the age of 3, children in highly communicative families will have a vocabulary of 1,100 words, while the child in a less communicative family will have a vocabulary of less than half of that (500 words). And research tells us these early differences are compounded when the child starts kindergarten. Their findings suggest: (1) differences in children's language abilities and measured intelligence are directly related to the amount of words parents say to their children; (2) children's academic success in elementary school can be attributed in large part to the amount of words children hear in the first few years of life; (3) parents of children with higher school performance use significantly more words and use words in more positive ways with their child from birth onward, than parents of children with lower school performance. Taken together, these findings suggest that the amount of words parents use has a big impact on early and later child development, which in turn influences a child's ability to read and acquire other academic proficiencies. The bottom line is children do best when they have lots of opportunities to talk and have high-quality interactions with parents and other caring adults, and a language-enriched environment is important for all children.

Rich early language experiences do more than teach words. They instill an excitement for learning and a sense of personal efficacy. Children without early positive language experiences have more to learn when they get to school – and fewer skills to enable that learning. Hart and Risley found that the number of words children knew at age 3 was strongly correlated with their reading and comprehension abilities at ages 9 and 10. In other words, an achievement gap that appears at age 3 becomes wider by the age of 10.[vi] Environments that encourage seeking, noticing, categorizing, and thinking behaviors also contribute to young children's learning about words and print. In literacy-rich homes and out-of-home settings, children are continually exposed to written and oral language. They engage in literacy practices – such as reading aloud, storytelling, playing word games, hearing bedtime stories, singing songs, making shopping lists – from birth onward.[vii]

Yet, not all early environments are equal; researchers have found important differences in children's exposure to language. When adults spoke more with children, exposing them to more language opportunities, it positively impacted the children's vocabulary level.[viii] Talking and playing with adults and other children are how children develop language and literacy skills. Researchers agree that reading aloud to children, developing their ability to recognize rhythms and sounds in language, and extensive exposure to print throughout early childhood are three key strategies for improving preschool language and literacy skills.[ix]

Additional research finds that literacy-enriched play settings help to increase early literacy skills among young children.[x] Children who play "office" using paper, stationery, wall signs and file folders, or kids who play "grocery store" making pencil-and-paper lists, do more than explore their imagination – they also gain literacy skills through play.[xi]

Hearing oral language and speaking are also important components of literacy in facilitating both early reading and writing skills.[xii] Responding to the sounds babies make, narrating what toddlers are doing and putting words to baby babbling or toddler talk are ways to promote language and literacy for the youngest children. Storytelling (and retelling) is one way of increasing children's oral fluency and expression, and improved story comprehension, while songs and finger play, such as Itsy-Bitsy Spider, allow for risk-free language play that fully engages children's minds as they act out the words of a song.[xiii] This kind of risk-free language play that singing songs permits gives children a chance to experiment with language, and to make safe mistakes as they experiment with new sounds, which can be especially important for children learning a new language.[xiv]

Although there is no consensus "best" strategy for developing literacy skills in young children, researchers do agree on one thing: adult/child book reading using a style that engages children as active participants leads to numerous language and literacy developmental skills. So, a parent who reads to their child while also pointing out words and asking questions that promote responses from the child provides an optimal environment for literacy development. Parents are key players in their child's relationship with literacy. They know when their child is most open to learning and how their child learns best.

Quality Early Learning Builds a Foundation for Reading Success

While families are their child's first and best teachers, many children spend part of their day in early learning settings while their parents work. Caregivers play a crucial role in helping children develop language and literacy skills, and this includes the teachers in early learning settings. Quality child care and preschools promote early literacy through: skilled teachers who know how to engage young learners; class sizes that allow for the kinds of high-quality interactions that promote language development (face-to-face interactions, language rich settings that involve singing, story times, etc.); plenty of books and other developmentally appropriate materials; and effective engagement of families in their children's learning.

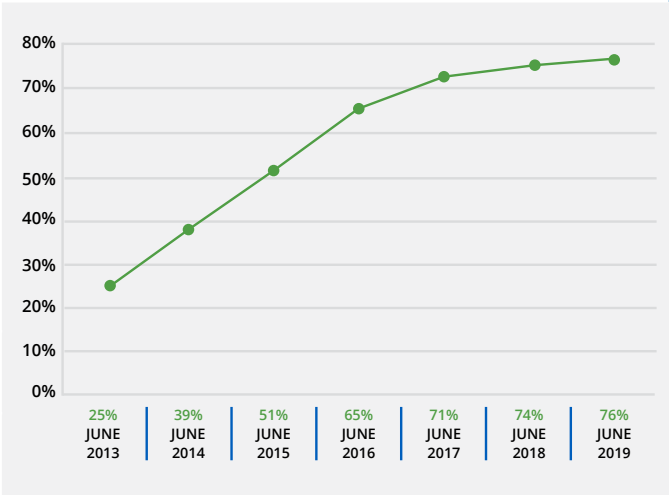
About 60% of Arizona's more than half a million young children live in homes where all the adults work, highlighting the importance of quality early learning environments in giving children the language and literacy-rich environments they need to be ready to learn to read when they enter kindergarten. Quality in early learning isn't easy to achieve and even harder for families to afford – a quality environment can cost about $10,000 per year, as much as tuition at a state university. There are a number of community partners working to ensure that under-resourced families can find and afford quality child care and preschool for their children, including Child Care Resource & Referral, funded through the Department of Economic Security; QualityFirstAZ.com, a comprehensive website funded by First Things First to build awareness of what quality looks like in early learning and connect families to quality care; and many human service providers working with families with young children, such as home visitors and family resource center coordinators.

In 2008, First Things First created Quality First — Arizona's Quality Improvement and Rating System — to establish a unified, measurable standard of care, inform parents on how well their provider implements quality standards, improve quality and promote school readiness. Quality First participating providers receive supports to improve and maintain the quality of their programs. These supports may include: individualized coaching and specifically targeted technical assistance, incentive grants and professional development scholarships. The latest data indicate that Quality First continues to significantly improve the quality of early learning options available to Arizona's families (chart on page 48). When programs were first rated (2013), 25% of 857 participating rated providers met or exceeded quality standards (3-5 star rated). Over the past six years, both enrollment and quality levels have improved among providers participating in Quality First. In 2019, 76% of 1,032 participating rated providers met or exceeded quality standards. This means that 45,278 children in Arizona were in early learning programs that meet or exceed quality standards, an increase of 85% since 2015 (24,420 children). More simply stated, the number of children with access to quality early learning as a result of Quality First has almost doubled since 2013.

When combined with providers who continue to work diligently on enhancing the quality of their child care and preschool programs, Quality First has ensured that more than 62,000 children throughout the state have access to a higher standard of early education. Almost 73% of those children are in early learning settings that meet or exceed quality standards.

Figure 34: Quality Improvement and Rating System Progress and Outcomes

	FY13	FY14	FY15	FY16	FY17	FY18	FY19*
Participants with a Star Rating	857	912	933	918	921	1,022	1,032
Highest Quality (5 stars)	16	23	36	47	52	73	85
Quality Plus (4 stars)	55	95	136	183	228	273	304
Quality (3 stars)	144	235	302	371	374	411	399
Progressing Star (2 stars)	602	547	442	311	259	260	235
Rising Star (1 star)	40	12	17	6	8	5	9



Quality First providers are publicly rated once they have received at least two assessments (typically around two years of Quality First participation). In order to provide the most comprehensive data possible, these figures include data for both publicly rated programs and not publicly rated programs (those who have been in Quality First less than two assessment cycles).
* Data are provided for all rated Quality First providers, regardless of funding source.

First Things First also prioritizes access to quality early learning programs by funding Quality First scholarships. This evidence–based strategy provides financial assistance in the form of scholarships for children from low–income families (200% of Federal Poverty Level and below, or $51,500 for a family of four) to attend quality early care and education programs. The intended outcome for children and families is increased access to quality early care and education settings that promote readiness for kindergarten. In addition, scholarships support continuity of care for children so that previously formed supportive relationships with caregivers can remain in place. In state fiscal year 2019, Quality First Scholarships helped 9,179 infants, toddlers and preschoolers throughout Arizona access a higher standard of early learning. Fifty-six (56%) of the children (5,146 infants, toddlers and preschoolers) were able to remain with the same provider for nine months of the year or longer, another hallmark of quality care.

The Arizona Department of Economic Security (DES) administers the state's child care subsidy program funded almost entirely by federal funds. Due to historic lack of state funding, the amount participating child care providers are reimbursed for serving children receiving subsidies has been significantly below the cost to provide quality care. This difference is passed on to families in the form of co-pays that are sometimes more than the family can afford to pay, resulting in many families not using the subsidy even when they qualified.

In recent years, the Department's administrative focus on supporting child care providers' quality improvement – coupled with a significant increase in federal funding – has resulted in progress in both support for quality and expanded access. In fiscal year 2019, DES created a tiered reimbursement system where providers meeting specific quality standards – including 4 or 5 stars in Quality First, various national accreditations or Head Start programs – are reimbursed at a higher level. That change was later put into statute by the state Legislature. In fiscal year 2020, DES has used the infusion of federal dollars to raise reimbursement rates by about 30% across the board, serve an additional 5,000 children, and eliminate a waiting list that had been in place since 2009. DES also added 3-star programs in Quality First to the tiered reimbursement system. While the Department acknowledges that reimbursement rates continue to be below the amount needed to fully support quality and that a waitlist is likely as more families become aware of the availability of subsidies and/or begin using the subsidies they are authorized for, the latest measures are steps in the right direction. In fact, as a result of these actions, the number of children receiving child care subsidies who were enrolled in quality environments in 2018 increased by 26% compared to 2017, a very promising change for Arizona.

The emphasis on supporting families and communities in their efforts to provide language and literacy rich opportunities for young children – coupled with the emphasis on expanding the quality of and access to early learning – is paying off for Arizona:

- The percentage of children attending preschool increased from 34% in 2015 to 38% in 2017;
- The percentage of preschoolers in quality settings increased from 21% to 24%;
- And, the percentage of third-graders passing the state's standardized test in English language arts increased from 40% to 46% (including increases in every Arizona county).

Much more remains to be done, but these data points demonstrate the on-going need to focus on giving all Arizona young children access to an accumulation of quality early language and literacy experiences that will have them learning to read and successfully reading to learn.

What Parents Can Do

- Talk frequently to babies or toddlers. Ask them about the things they are doing, even if the child is not yet talking. Speak clearly and describe what is happening around them. Read to them every day. Learn more at ReadOnArizona.org/Smart-Talk.
- Begin reading books early, visit their public library and let their child see them reading. Parents should use board or cloth books that the child can hold, and they should read aloud to their child every day.
- Talk to their child about what they are doing, telling their child stories, listening patiently and responding to their child's verbalizations, even if the child cannot yet speak with words or full sentences.
- Say nursery rhymes and emphasize rhyming words, sing songs emphasizing different syllables, and make up their own rhymes with their child.
- Point out letters in their child's environment, read them alphabet books, and emphasize the similarities and differences between objects.
- When choosing a child care or preschool setting, make sure it is of quality. Check www.QualityFirstAZ.com for tips and resources to choose a quality setting.

What Communities Can Do

- Promote the importance of early literacy at every opportunity. Get creative, including efforts like free little libraries in front of homes where children can borrow books to read.
- Volunteer with a literacy service provider.
- Support community efforts such as literacy fairs, book drives and family literacy events.

What Schools Can Do

- Learn more about state approved tools to monitor the progress of children from birth through third grade, including Teaching Strategies Gold and the Kindergarten Developmental Inventory. Carefully monitor students for literacy needs and provide individualized attention when needed.
- Work with families and parents as full partners in the success of their child.
- Make data collection, tracking and a comprehensive early literacy assessment a priority.
- Collaborate with providers within the early literacy system to ensure more children requiring assistance are served.

What Policymakers Can Do

- Make early literacy and early education policy and funding priorities to ensure Arizona thrives in a global economy.
- Use their leadership platform to build awareness of and promote early education and literacy.
- Incorporate Read On Arizona's comprehensive model into efforts across Arizona.
- Expand the work of programs that effectively engage families in early literacy efforts, like Reach Out and Read or Make Way for Books
- Expand funding to increase the number of high quality early learning settings, particularly in rural and under-served communities.
- Return funding for access to early learning to pre-Recession levels.

The following pages contain additional statewide and county data that further describe learning conditions for children in Arizona.

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i. *Neuman, S. B., Copple, C., & Bredekamp, S. (2000). Learning to read and write: Developmentally appropriate practices for young children. National Association for the Education of Young Children. P. 3*

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iv. *Hart, B., & Risley, T. R. (2003). The early catastrophe: The 30 million word gap by age 3. American Educator, Spring.*

v. *Risley, T. R., (2005, February 28), Meaningful differences in the language learning environment of young American children, [interview transcript]. Retrieved from http://www.childrenofthecode.org/interviews/risley.htm.*

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viii. *Hart, B., & Risley, T. R. 2003. The early catastrophe: The 30 million word gap by age 3. American Educator, Spring.*

ix. *Halle et al. (2003). Promoting language and literacy in early childhood care and education settings. www.childcareresearch.org.*

x. *Justice, L. M., & Pullen, P. C. (2003). Promising interventions for promoting emergent literacy skills: Three evidence-based approaches. Topics in Early Childhood Special Education, 23(3), p. 99.*

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xii. *Goswami, U., 2002. Early phonological development and the acquisition of literacy. In S.B. Neuman & D.K. Dickinson (Eds.), Handbook of Early Literacy Research. New York: Guilford Press. Watson, R., (2002). Literacy and oral language: Implications for early literacy acquisition. In S.B. Neuman & D.K. Dickinson (Eds.), Handbook of Early Literacy Research. New York: Guilford Press.*

xiii. *Christie, J.F., Enz, B.J., &Vukelich, C. (2011). Teaching Language and Literacy: Preschool Through the Elementary Grades. 4th edition. Pearson: Boston MA*

xiv. *Ibid.*

Data Summary: Education

Why Early Care & Education Matters

Early childhood is an exciting time of rapid development for children's minds, bodies, and social skills. The experiences young children have during these early years are critical for healthy brain development and prepare them for lifelong learning and well-being.[104,105] While rich, stimulating environments can promote healthy development, early negative experiences can have lasting effects. For example, gaps in language development between children from disadvantaged backgrounds and their more advantaged peers can be seen by two and a half years of age;[106] disparities that persist until kindergarten tend to predict later academic problems.[107]

The early childhood system provides a wide array of opportunities to support healthy development for young children, from early intervention services and home visiting to child care and preschool programs. Quality early care and education can positively influence children's overall development.[108,109] This is particularly true for children in poverty.[110] Children who attend high quality preschool programs repeat grades less frequently, obtain higher scores on standardized tests, experience fewer behavior problems, and are more likely to graduate from high school.[111] Not only does access to affordable, quality child care make a positive difference for children's health and development, it also allows parents to maintain stable employment and support their families.[112]

However, families often face substantial barriers in accessing high quality early care and education opportunities. The average annual cost of full-time center-based care for a young child in Arizona is nearly equal to the cost of one year at a public college.[113,114] As an additional barrier, statewide, there is a deficit of 22,228 available slots in licensed early care and education.[115] These facts highlight the need for additional, high-quality, affordable early care and education providers in Arizona. Child care subsidies provided by government agencies can help to offset families' child care costs, reducing financial barriers to accessing child care and ensuring parents can remain employed and provide for their family's needs.[116] Access to quality child care and classroom environments can also ensure early identification and targeted interventions for children with special needs that may help reduce their risk of developmental delays, provide enriching experiences children might not have access to at home, and prevent preschool expulsion.[117,118]

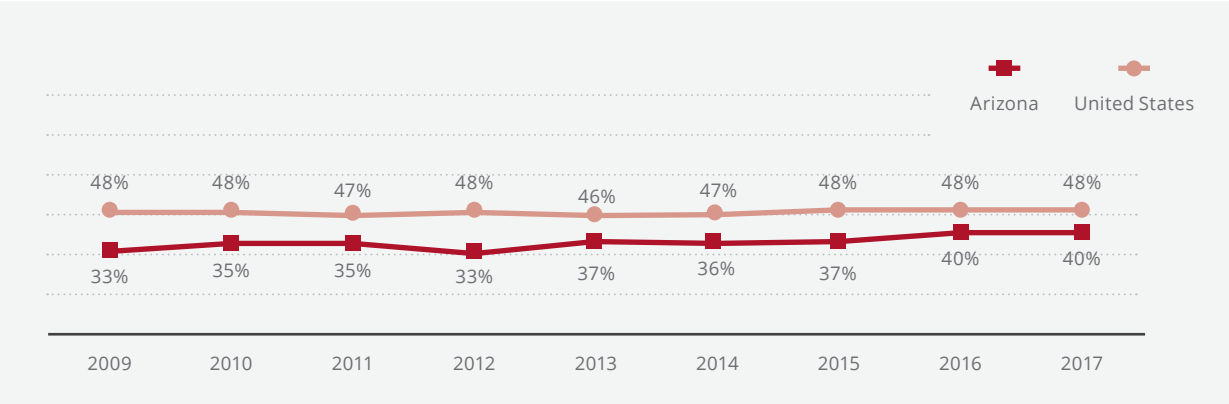
A statewide early care and education system that is accessible, affordable and of high quality is essential for the social and economic health of Arizona. Investment in quality early learning programs for young children leads to increased education and employment, reduced crime, and better overall health.[119,120,121] The costs of these programs are ultimately repaid several times over. Experts estimate that society gets back about $8.60 for every $1 spent on quality early learning programs.[122] The investment in early childhood is potentially one of the most productive investments a community can make.

How Arizona's Young Children Are Faring

Preschool Enrollments

Children enrolled in quality early education programs are more likely to succeed academically, including scoring higher on standardized tests and having fewer behavior problems.[123] Nationally, rates of preschool enrollment vary by race and ethnicity, with a higher percentage of White children (41%) enrolled in preschool than Hispanic children (31%) and American Indian/Alaska Native children (34%).[124] In Arizona as a whole, there are notably fewer 3- and 4-year-old children enrolled in school (40%) than nationwide (48%; see Figure 34). Though enrollment has slowly increased over time, this still leaves 60% of preschool-aged children who are not currently accessing early education programs in Arizona.

Figure 34: Children (ages 3-4) Enrolled in School, 2009 to 2017

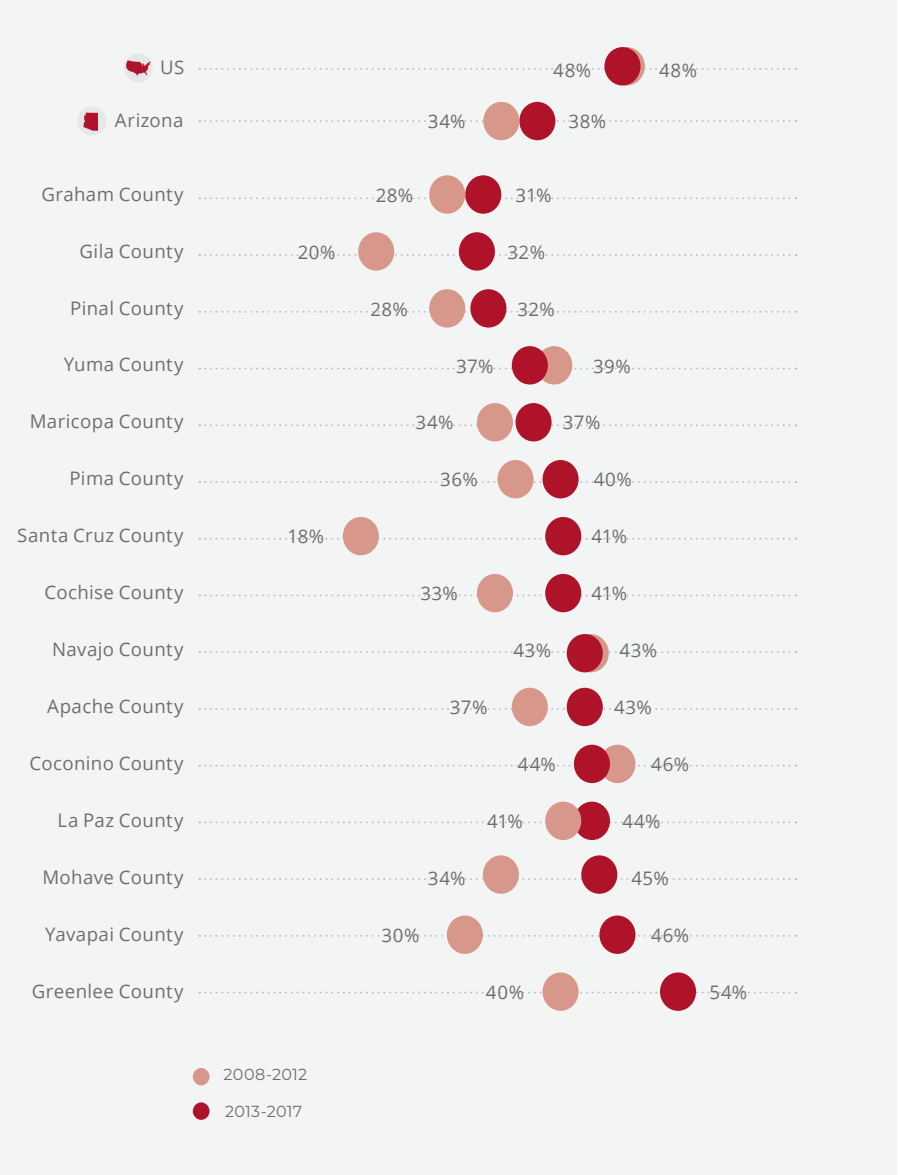


Source: United States Census Bureau (2018). 2009-2017 American Community Survey ACS Preschool Enrollment Single year estimates, Table B15002..

Changes in enrollment of young children (ages 3-4) in school varied across the state between 2008-2012 and 2013-2017 (see Figure 35)[j]. Enrollment in preschool increased in 11 counties, more than doubling in Santa Cruz County (from 18% in the 2008-2012 period, to 41% in the 2013-2017 period). Despite these increases, all counties in Arizona, with the exception of Greenlee, fall below the national average for preschool enrollment (48%).

j. Data at the county level are available as 5-year increments from the American Community Survey.

Figure 34: Children (ages 3-4) Enrolled in School, 2009 to 2017



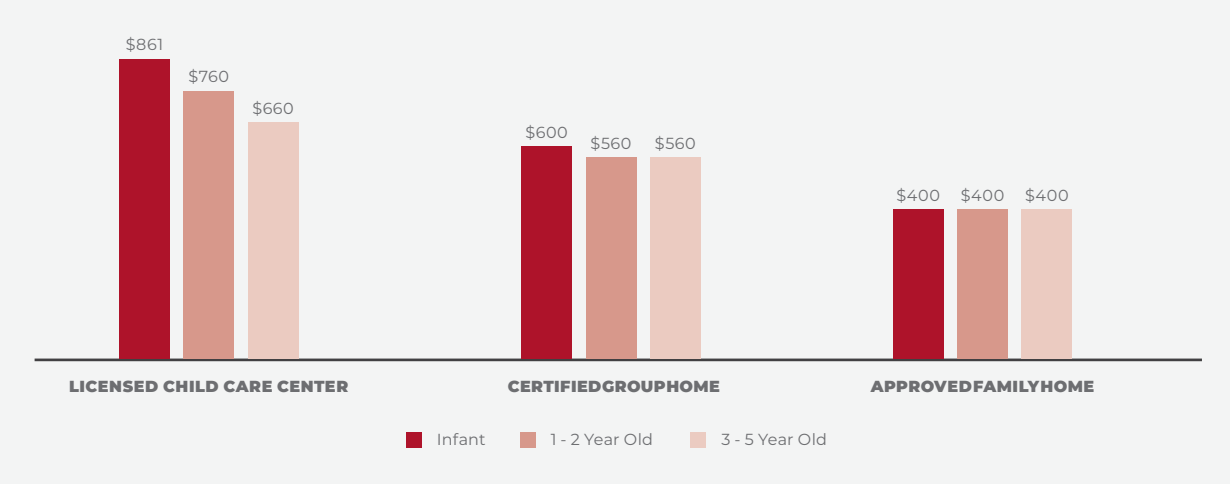
Source: United States Census Bureau (2018). 2009-2017 American Community Survey ACS Preschool Enrollment 5-year estimates.

Affordability

One barrier to having a child participate in an early education program is cost. Child care and early education costs can be prohibitive for families and may have ripple effects on overall family financial stability. In Arizona, over 12% of families reported that problems with child care led to having to quit a job, turn down a job, or otherwise make substantial changes in their job.[125] These conflicts between child care and work are less common for families across the nation (8.7%).

The average monthly cost for child care in Arizona varies based on the type of provider and age of the child, with licensed child care centers often having the highest daily rates across all age groups (Figure 36). The monthly rate for an infant in a licensed child care center is the highest at just over $861 per month. Without accounting for possible family discounts, a family with one preschooler and one infant can expect to pay about $800 per month for a family home provider, $1,160 per month for a certified group home provider, or $1,521 per month for a licensed child care center provider. These numbers show that child care costs can equate to the monthly cost of rent, creating potential financial challenges that are further compounded for families with multiple children under age 5. In Arizona, a married family with two children living at the poverty line would need to pay over 77% of their household income for center-based care.[126]

Figure 36: Monthly Median Cost of Care by Type of Provider and Age of Child, 2018



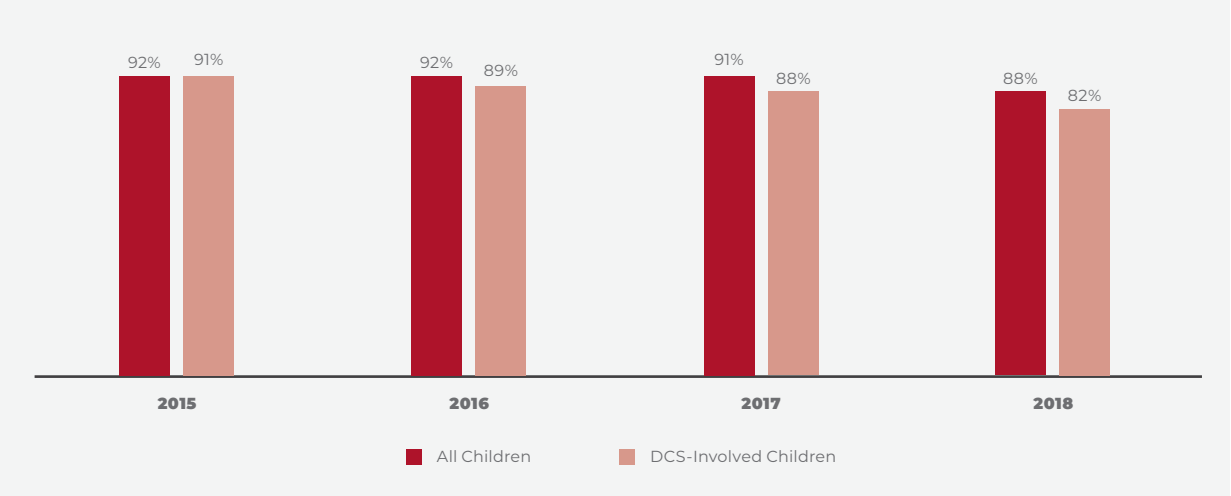
Source: Arizona Department of Economic Security (2019). 2018 Child Care Market Rate Survey. Unpublished data received by request.
Arizona Department of Economic Security (2019). 2018 Child Care Market Rate Survey Report. Retrieved from www.des.az.gov/file/14277/download.

Child care subsidies through the Arizona Department of Economic Security (DES) can help families who struggle to afford early care and education for their children. However, in the last four years, the percentage of eligible children receiving these subsidies decreased, with an even steeper decline for children involved with the Department of Child Safety (DCS) (Figure 37). In 2018, 12% of eligible children and 18% of children involved with the child welfare system (who are automatically eligible) did not receive child care subsidies. In addition, there has been an increase in the number of families authorized for child care subsidy who did not use it (see Figure 38). In both Yuma and Navajo counties, the proportion of families authorized for but not utilizing child care subsidies more than doubled.

Families may not access subsidies because of a lack of knowledge about how to navigate the system; they may not use child care subsidies they are authorized for because they cannot afford child care even with the subsidy, or cannot find a provider within their area who has the hours they need and/or who will take subsidy payments.[127,128] Between 2016 and 2018, 788 providers stopped participating in the state subsidy program.[129]

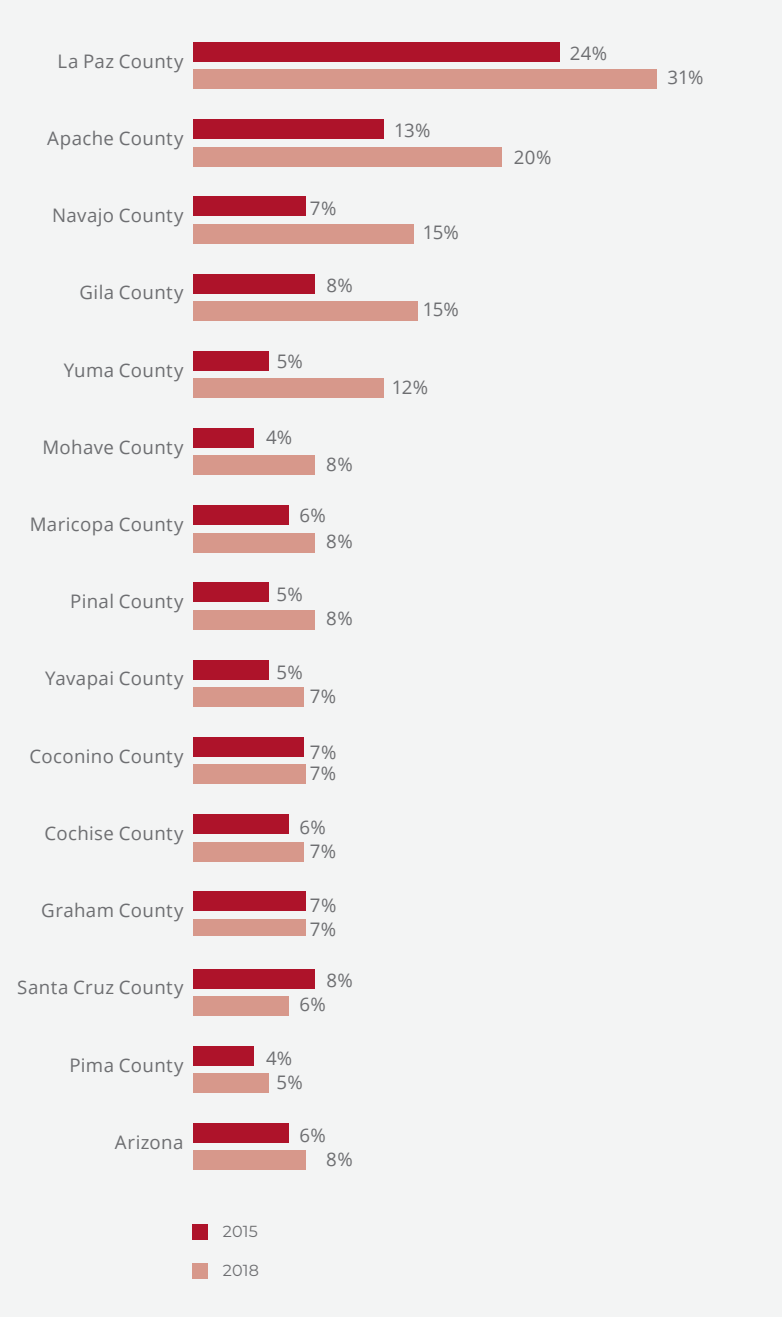
In good news for providers and families, as of June 2019, DES had increased provider reimbursement rates by 30% on average.[130] These increases may help remove barriers to families utilizing child care subsidies. Also in June 2019, for the first time since the Great Recession, the DES child care subsidy waiting list was suspended, meaning all children who qualify for subsidies are able to receive them. Whether or not families will decide to seek authorization or use the subsidies will depend on whether they are able to afford the difference between the subsidy and what the provider charges and are able to find a provider, specifically, a provider that accepts DES subsidies.[131] These changes are the result of the state legislature approving $56 million in federal funds as a supplemental for FY2019 and appropriating $56 million for FY2020.[132]

Figure 37: Percent of Eligible Children Who Received DES Child Care Subsidies, 2015-2018



Source: Arizona Department of Economic Security (2019). 2015-2018 Child Care Assistance Data. Unpublished data received by request.

Figure 38: Comparison of eligible families not using subsidies, 2015 and 2018



Source: Arizona Department of Economic Security (2019). 2015-2018 Child Care Assistance Data. Unpublished data received by request.

Quality First Scholarships also help children in low-income families access quality early learning programs. The scholarships allow children from low income families (≤ 200% of Federal Poverty Level) to attend quality child care and preschool programs, with the goal of increasing access for families to quality early care and education settings that promote kindergarten readiness. In 2019, Quality First Scholarships were granted across Arizona to a total of 9,179 children.[133]

High Quality

Establishing that available early care and education programs meet quality standards is important to ensure these early environments support positive outcomes for children's well-being, academic achievement, and success later in life.[134] Quality early learning environments build on basic health and safety regulatory standards. Quality settings include teachers and staff who know how to work with young children, create learning environments that nurture the development of every child, and foster positive, consistent relationships and interactions that give children the individual attention they need. Quality First is Arizona's Quality Improvement and Rating System (QIRS) for early child care and preschool providers.[135] A Quality First Star Rating represents where along the continuum of quality (1 to 5 stars) a program was rated and how they are implementing early childhood best practices. One star indicates a program is participating in Quality First, is regulated, in good standing, and is making the commitment to work on quality improvement. Three stars indicate that a program is of good quality care, and families can be confident that children are well cared for in such an environment. Five stars indicate the highest level of quality attainable, where families will find low staff-child ratios and group sizes, highly educated personnel, and strong curriculum which optimizes children's comprehensive development.

The number of providers across the state that meet quality standards (3-star rating or higher) has increased across the last five years with 25% of the 857 participating providers in 2013 meeting or exceeding quality standards, and 76% of 1,032 participating providers in 2019 meeting or exceeding those standards.[136,137] Accreditation is another indicator that a program achieves high quality standards. In Arizona, only 10% of licensed child care providers were nationally accredited, and these accredited providers offer only 12% of child care slots available across the state.[138]

For children eligible for child care subsidies, attending a quality early care and education environment may be particularly important as the effects of high-quality preschool are strongest for children in poverty.[139] In Arizona, the number of children receiving child care subsidies who were enrolled in quality environments in 2018 increased by 26% compared to 2017, a very promising change for Arizona (see Table 2). For children involved with DCS, the benefits of a quality environment may be even more impactful given their greater risk for behavioral and socioemotional issues.[140] Statewide, the number of children involved with DCS in quality environments increased by 14% between 2017 and 2018.

Table 2: Children receiving subsidies who are enrolled in quality environments, 2017 to 2018

YEAR	CHILDREN IN QUALITY ENVIRONMENT		DCS-INVOLVED CHILDREN IN QUALITY ENVIRONMENT	
2017	13,703	43%	6,061	44%
2018	17,294	48%	6,937	47%
Increase	+26%		+14%	

Source: Arizona Department of Economic Security (2019). 2017-2018 Child Care Assistance Data. Unpublished data received by request.

Young children, including the most vulnerable young children, across Arizona are increasingly participating in quality early learning environments. Among children involved with the Arizona Department of Child Safety (DCS) who were receiving child care subsidies, the proportion enrolled in quality environments increased between 2017 and 2018 in all counties with reportable data (Table 3). Across all children receiving subsidies, all but two counties with reportable data showed marked increases in the number of children enrolled in quality environments.

Table 3: Children receiving subsidies who are enrolled in quality environments, 2017-2018

	Children in quality environment (2017)	Children in quality environment (2018)	Change 2017 to 2018	DCS-involved children in quality environment (2017)	DCS-involved children in quality environment (2018)	Change 2017 to 2018
Arizona	13,706	17,295	+26%	6,063	6,938	+14%
Apache County	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Cochise County	150	215	+43%	33	53	+61%
Coconino County	136	168	+24%	60	74	+23%
Gila County	29	#N/A	#N/A	10	#N/A	#N/A
Graham County	29	#N/A	#N/A	12	#N/A	#N/A
Greenlee County	0	0	#N/A	0	0	#N/A
La Paz County	#N/A	0	#N/A	#N/A	0	#N/A
Maricopa County	8,545	11,156	+31%	3,746	4,435	+18%
Mohave County	174	348	+100%	99	158	+60%
Navajo County	94	82	-13%	40	50	+25%
Pima County	3,407	3,848	+13%	1,576	1,596	+1%
Pinal County	571	682	+19%	270	311	+15%
Santa Cruz County	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Yavapai County	220	272	+24%	110	131	+19%
Yuma County	324	451	+39%	96	111	+16%

Source: Arizona Department of Economic Security (2019). 2017-2018 Child Care Assistance Data. Unpublished data received by request

High quality early care and education practices, including lower teacher-child ratios, access to professional development, and early childhood mental health consultation, can also help avoid preschool expulsion.[141,142] Nationally, preschool expulsions and suspensions occur at high rates and disproportionately impact children of color, specifically young black boys.[143,144] In 2016, an estimated 50,000 preschoolers were suspended and 17,000 preschoolers expelled nationwide, with black children 2.2 times more likely to be suspended or expelled than other children.[145] The U.S. Department of Education Office of Civil Rights began collecting data on preschool suspension and expulsion in 2011 and, as a result of federal changes to the Child Care Development Block Grant in 2014, Arizona began collecting provider-reported data on early learning environment expulsion in 2017.[146,147] Given the positive impact of early educational experiences on children's cognitive and emotional development and the negative impact of suspension and expulsion on educational outcomes, it is essential to identify areas with higher rates of expulsion to provide targeted supports.[148]

As an alternative to expulsion, early education providers in Arizona have an opportunity to identify young children as being at risk for expulsion and to receive consultation from experts to help intervene in problem behaviors. Consultation is provided through on-site mental health consultation, available for Quality First and some non-Quality First providers, as well as through a DES-managed hotline. If that child is then able to remain in the center, this is documented as a prevented expulsion and their case is closed out. The reported number of prevented expulsions of young children receiving subsidies increased from seven in 2017 to 45 in 2018.

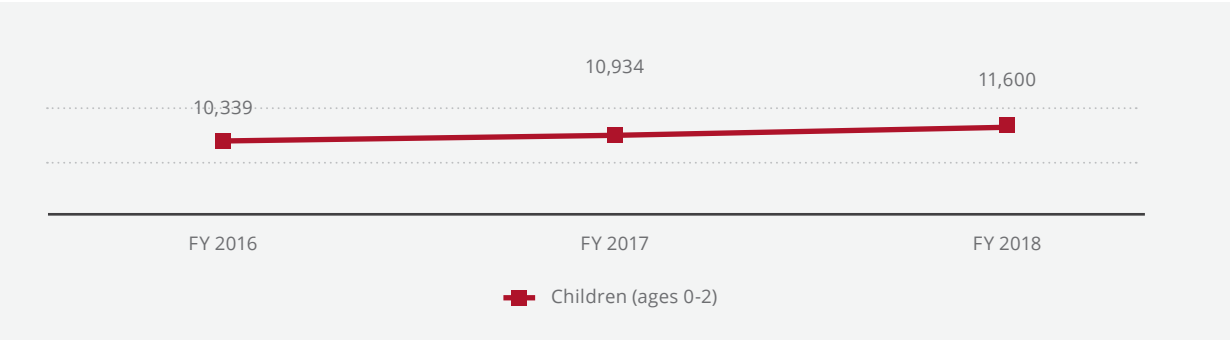
Eleven of 15 counties in Arizona reported no expulsions of children receiving subsidies in early learning environments to DES in 2017 and 2018; only Maricopa, Pima, Pinal and Yuma counties reported expulsions. The number of children receiving subsidies who were expelled from an early learning setting almost doubled from 2017 to 2018, increasing from 27 to 57. Given recent increased awareness of available supports, along with reliance on self-reported data from providers, this increase in expulsion cases may reflect an increase in help-seeking by providers to prevent expulsions rather than a true increase in expulsions overall.

Special Needs

Ensuring all families have access to timely and appropriate screenings for children who may benefit from early identification of special needs can help improve outcomes for these children and their families. Early intervention can help young children with, or at risk for, developmental delays improve their language, cognitive, and socio-emotional development.[149,150] It also reduces educational costs by decreasing the need for special education.[151] In Arizona, services available to families with children with special needs include those provided through the Arizona Early Intervention Program (AzEIP),[152] the Arizona Department of Education Early Childhood Special Education program,[153] and the Division of Developmental Disabilities (DDD).[154]

The number of children with special needs served across all three major service systems in Arizona has increased in the past three years. AzEIP is an interagency system of services and supports for families of children, birth to age 3, with disabilities or developmental delays in Arizona.[155] In 2018, AzEIP served a total of 11,600 children, an increase of 12% from 2016 (see Figure 39).

Figure 39: AzEIP active caseloads for children ages 0-2, FY 2016-2018



Source: Arizona Department of Economic Security (2018). Arizona IDEA Part C- Child Count Setting Release 4.0. Retrieved from www.des.az.gov/sites/default/files/media/AzEIP-618-Child-Count-Data-Table-FFY16.pdf
Arizona Department of Economic Security (2019). AZEIP Service Dataset. Unpublished data received by request.

Between 2013 and 2016, intervention services provided for infants and toddlers through AzEIP also made demonstrated improvements (Table 4): AzEIP services were provided in a timely manner (87%), within children's home or community-based settings (98%), and within the required 45-day timeline (95%).[156]

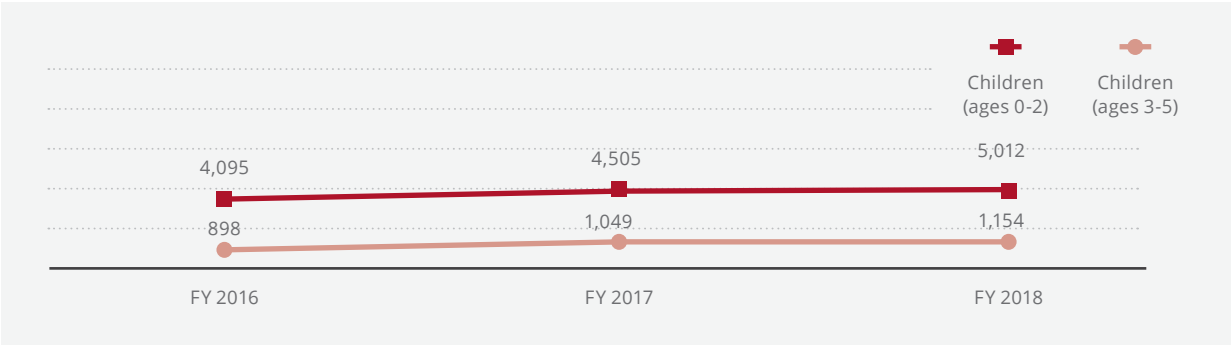
Table 4: Key Performance Measures for AzEIP in Arizona, 2013-2016

	FFY 2013	FFY 2014	FFY 2015	FFY 2016
Infants and toddlers with IFSPs who received the early intervention services on their IFSPs in a timely manner				
Timely Services	83%	75%	85%	87%
Target	100%	100%	100%	100%
Infants and toddlers who primarily received services in home or community-based settings				
Setting	95%	98%	98%	98%
Target	89%	90%	91%	92%
Eligible infants and toddlers with IFSPs for whom an eligibility determination, assessment, and an initial IFSP meeting were conducted within Part C's 45-day timeline				
45-Day Timeline	76%	89%	91%	95%
Target	100%	100%	100%	100%

Source: Arizona Department of Economic Security (2018). Public Reports of AzEIP 2013-2016. Retrieved from www.des.az.gov/documents-center

AzEIP may refer families of children with disabilities or developmental delays to DDD if the child has or is at risk for developing a qualifying disability, including cerebral palsy, epilepsy, autism spectrum disorder, or an intellectual or cognitive disability.[157] DDD provides services to individuals with qualifying disabilities through adulthood. Statewide, children receiving services from DDD increased from 2016 to 2018 for both children ages 0-2 (+27%) and children ages 3-5 (+30%) (see Figure 40).

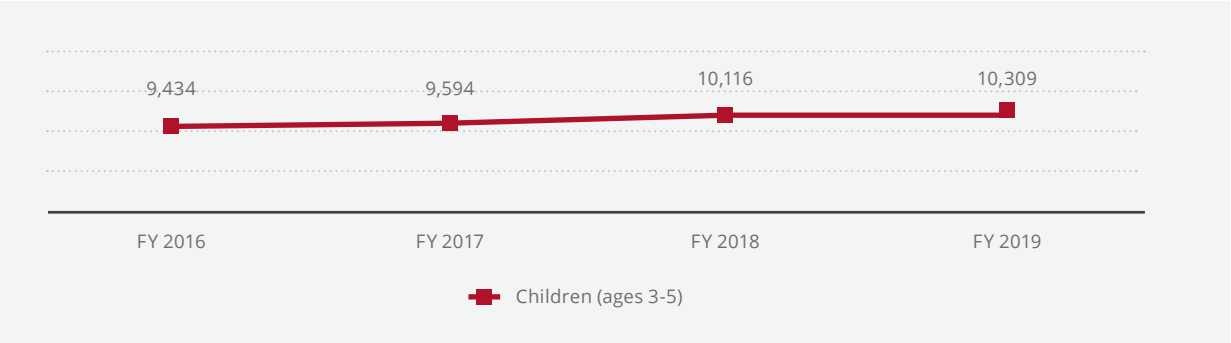
Figure 40: Children (ages 0-2 and ages 3-5) receiving services from DDD, FY 2016-2018



Source: Arizona Department of Economic Security (2019). 2015-2018 Division Developmental Disabilities Data. Unpublished data received by request.

Once a child with special needs turns 3, they transition from receiving services through AzEIP to receiving services from their local education authority (LEA)[k]. Data from the Arizona Department of Education show that the number of children with special needs receiving services from LEAs has also increased since 2016 (+9%) (see Figure 41). The largest proportion of children with special needs receiving services from LEAs during the 2018-2019 school year had a developmental delay (42%), followed by speech or language impairment (36%), and preschool severe delay (20%); only 2% of young children statewide had diagnosed hearing or visual impairments.[158]

Figure 41: Children (ages 3-5) with special needs receiving services from Local Education Authorities (LEAs), FY2016-2019



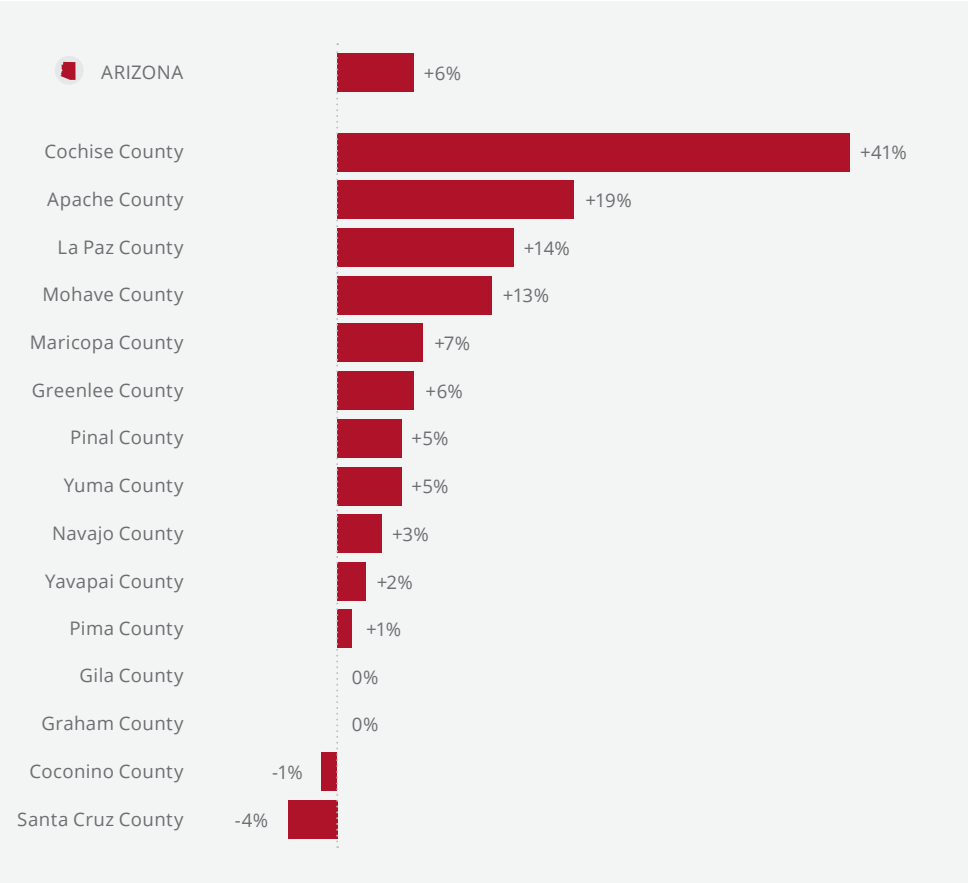
Source: Arizona Department of Education (2019). 2015-2016 to 2018-2019 School Year Preschool Children with Special Needs Data. Unpublished data received by request.

These increases in the number of children with special needs receiving services across Arizona's early childhood system match national trends. Nationwide, the number of children with developmental disabilities and the number of children receiving special education services has been increasing over the past few years.[159,160] This may be due to greater awareness among parents, early childhood teachers, and pediatricians of special health care needs and the importance of early intervention and access to early screening, which in turn may help children get access to needed support services early in life.[161]

Mirroring statewide trends, nearly all counties showed an increase in active AzEIP cases between 2017 and 2018 (see Figure 42). The most dramatic increases were seen in Cochise, Apache, La Paz, and Mohave counties, while both Santa Cruz and Coconino counties showed small decreases. As discussed above, these increases may indicate that more young children in counties across Arizona are being identified as having special needs early in life, helping them access early intervention support services to enhance their development.

k. A public board of education or other public authority legally constituted within a State for either administrative control or direction of, or to perform a service function for, public elementary schools or secondary schools in a city, county, township, school district, or other political subdivision of a State, or for a combination of school districts or counties that is recognized in a State as an administrative agency for its public elementary schools or secondary schools.

Figure 42: Change in AzEIP cumulative active caseload between 2017 and 2018



Source: Arizona Department of Economic Security (2019). AZEIP Service Dataset. Unpublished data received by request

Why K-12 Education Matters

A community's K-12 education system can support positive outcomes for children and their families, as well as the economic well-being of the entire community. Individuals with higher levels of education tend to live longer and healthier lives.[162] Parents with higher education may be less vulnerable to economic instability and stress. They also are more likely to have children with positive outcomes related to school readiness and educational achievement, as well as improved health, social, and economic outcomes.[163] Key indicators of a community's status related to educational success include: school attendance, achievement on standardized testing, high school graduation and dropout rates, and education attainment among adults.

School attendance and academic engagement early in life can significantly influence the direction of a child's academic trajectory. Starting in kindergarten, poor school attendance can cause children to fall behind, leading to lowered proficiency in reading and math and increased grade-retention.[164] Consistent school attendance is particularly important for children from economically disadvantaged backgrounds, who are most at risk for chronic absenteeism.[165,166]

Standardized testing can assist with identifying and supporting children with lower proficiency in reading and math to prevent grade-retention or drop-out. Reading skills in third grade, specifically, are an important predictor of later academic learning and success measured in standardized tests. Students who are at or above grade-level reading in third grade are more likely to graduate high school and attend college.[167]

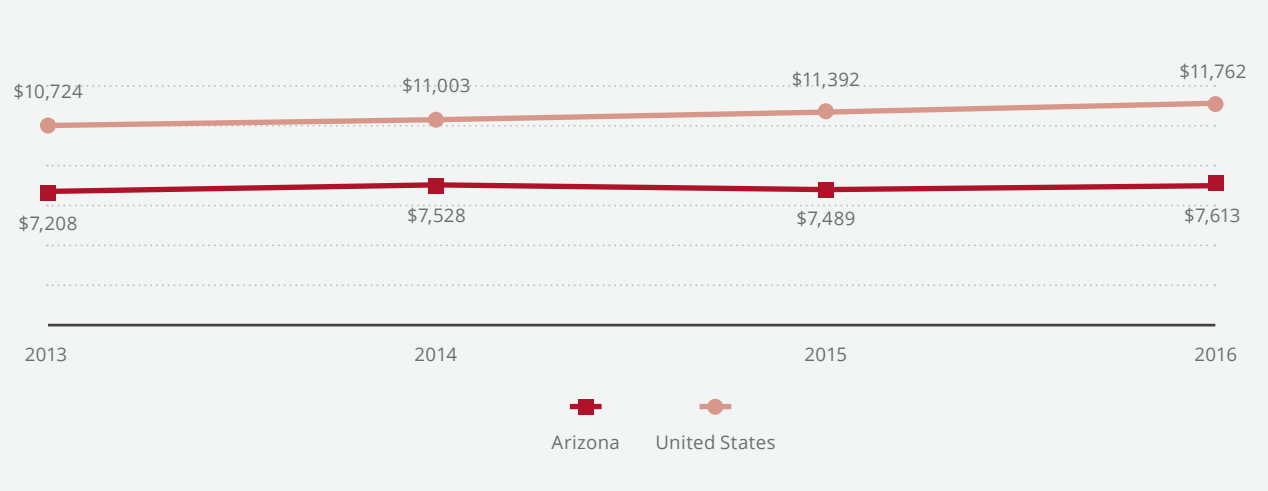
High school graduation is an important milestone for U.S. teenagers and a predictor of future success. Graduating from high school is associated with better health and financial stability, lower risk for incarceration, and better socio-emotional outcomes compared to dropping out of high school.[168,169] Ultimately, the education achievement of adults within a region speaks to the assets and challenges of a community's workforce, including those that are working with or on behalf of young children and their families. Given the cascading effect of early education on later academic achievement and success in adulthood, it is critical to provide substantial support for early education and promote policies and programs that encourage the persistence and success of Arizona's children.

How Arizona's K-12 Children Are Faring

Educational Investment

Arizona at the state level has consistently spent less money per student on public elementary and secondary education than almost anywhere else in the country. During the 2015-2016 school year, Arizona ranked 48th in the country, spending $7,613 per student (see Figure 42).[170] This is more than $4,000 less per student than the national average ($11,762). Research suggests that increased per-pupil spending is linked in the short-term to better student-to-teacher ratios and higher teacher salaries and to greater educational attainment, higher wages, and lower poverty rates in the long-term, suggesting that greater investment in the education systems contributes to greater economic well-being for the community as a whole.[171]

Figure 43: Trends in Per Pupil Spending for Arizona and the United States, 2013-2016

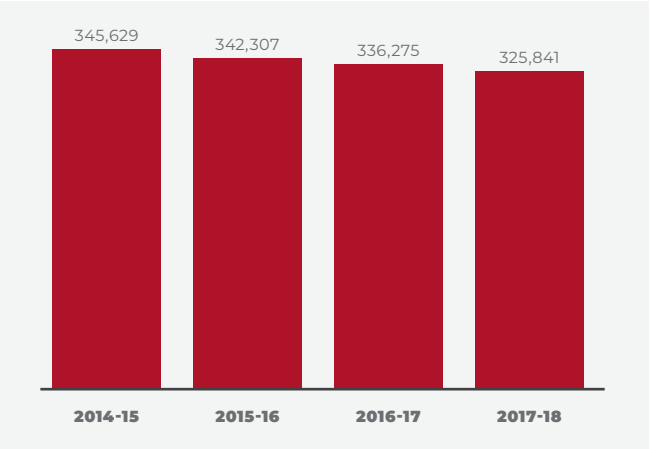


Source: U.S. Census Bureau (2018). Annual Survey of School System Finances: Per Pupil Amounts for Current Spending of Public Elementary-Secondary School Systems by State: Fiscal Years 2013-2016. Retrieved from www.factfinder.census.gov

School Enrollment and Attendance

Arizona school districts and charter schools receive Basic State Aid based on several factors related to student enrollment and attendance. To receive funding, school districts and charter schools report enrollment and attendance data to the Arizona Department of Education (ADE). ADE processes that data, determines payment amounts according to the relevant statutory funding formulas and distributes payments to schools up to twelve times each year. Statewide enrollment in kindergarten through third grade in public and charter schools has been steadily decreasing since the 2014-2015 school year, with a 6% decrease in enrollment by the 2017-2018 school year (Figure 44). Declining school enrollments have led to budget challenges in many schools, particularly in rural areas of the state.[172]

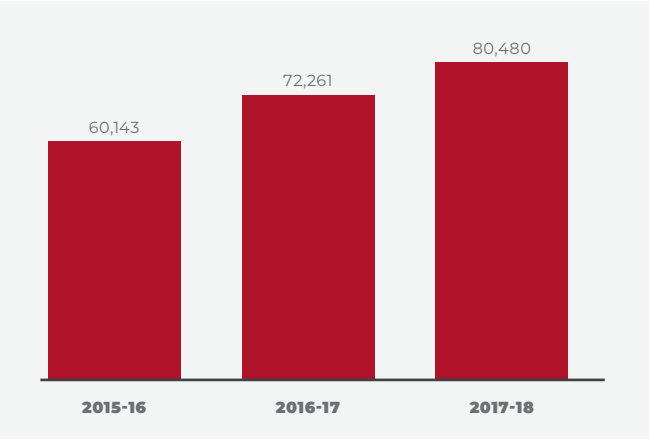
Figure 44: Students enrolled in Kindergarten through 3rd Grade in Public and Charter Schools, 2014-15 to 2017-18



Source: U.S. Census Bureau (2018). Annual Survey of School System Finances: Per Pupil Amounts for Current Spending of Public Elementary-Secondary School Systems by State: Fiscal Years 2013-2016. Retrieved from www.factfinder.census.gov

Meeting the needs of English language learners is an increasing consideration in Arizona schools. Mastery of more than one language is an asset in school readiness and academic achievement, and offers cognitive and social-emotional benefits in early school and throughout a child's lifetime.[173,174,175,176] With the 2019 passing of SB1014,[177] amending Arizona Revised Statute §15-241 and Arizona Revised Statute §15-756,[178] public school districts are able to implement research-based models based on the diverse linguistic needs of their community. These models aim to support all students' success. Between the 2015-2016 and 2017-2018 school years, the percentage of K-12 students in Arizona who were English language learners increased by 36% (Figure 45).

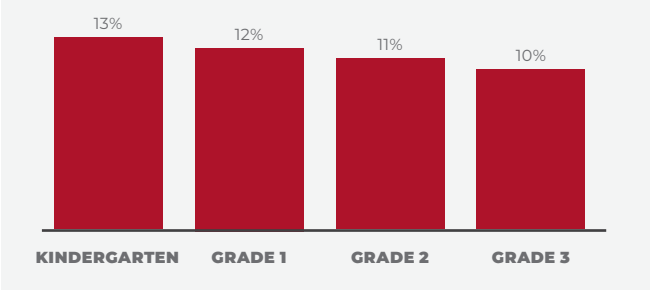
Figure 45: Students who are English Language Learners in Arizona, 2015-16 to 2017-18



Source: Arizona Department of Education (2019). 2015-2016, 2016-2017, and 2017-2018 School Year Enrollment Reports. Retrieved from www.azed.gov/accountability-research/data/

Chronic absenteeism is defined as missing 10% of the school days within a school year. It affects even the youngest children, with more than 10% of U.S. kindergarteners and first graders considered chronically absent.[179] When children miss school, they can fall behind their peers, which can negatively impact reading and math assessment scores and even lead to grade retention.[180] Statewide rates of chronic absenteeism in kindergarten through the third-grade were 10% or higher in every grade in fiscal year 2019 (Figure 46). These absence rates suggest that more work needs to be done to support school attendance among Arizona's young students.

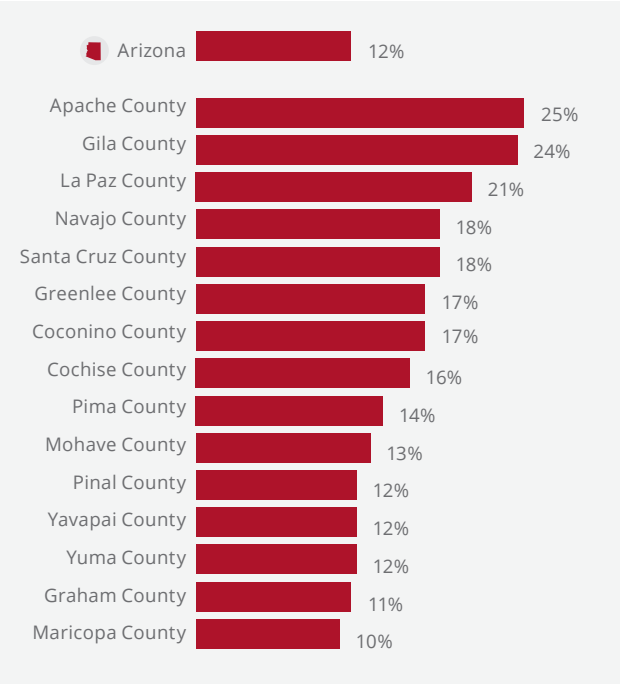
Figure 46: Chronic Absence Rates in Arizona (Grades Kindergarten through Third Grade), FY 2019



Source: Arizona Department of Education (2019). Fiscal Year 2019 Chronic Absenteeism. Unpublished data received by request.

Chronic absenteeism for kindergarten through third-grade students in Arizona varies considerably between counties (see Figure 47). The high chronic absenteeism rates for Apache (25%) and Gila (24%) counties indicate that nearly than one in every four kindergarten through third-grade students were chronically absent from school in the past year, indicating a particular need for programs and policies to support school attendance in these counties.[181]

Figure 47: Kindergarten through Third Grade Chronic Absence Rates, 2019



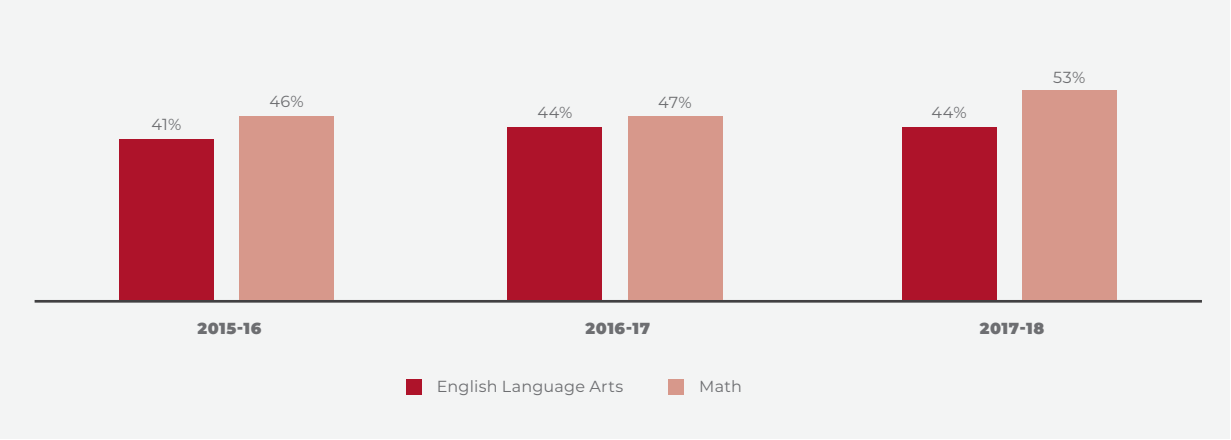
Source: Arizona Department of Education (2019). Fiscal Year 2019 Chronic Absenteeism. Unpublished data received by request.

Achievement on Standardized Testing

A child's third-grade reading comprehension skills have been identified as a critical indicator of future academic success.[182] Standardized measures of proficiency in third grade can be a key indicator of future high school success, particularly for children living in poverty. More than a quarter of children (26%) who were living in poverty and not reading proficiently in third grade did not finish high school.[183] This is more than six times the high school dropout rate of proficient readers.[184]

The statewide assessment tool for English Language Arts (ELA) is Arizona's Measurement of Education Readiness to Inform Teaching (AzMERIT).[185] AzMERIT scores are used to determine promotion from the third grade in accordance with the state's Move on When Reading law, enacted in 2010.[186] Less than half of third-graders (44%) achieved scores on the English Language Arts assessment that are considered passing. However, the passing rates for Arizona's third graders in English Language Arts have increased from 41% in the 2015-2016 school year to 44% in the 2017-2018 school year. The increase in the passing rates for the third-grade AzMERIT Math Assessment was more pronounced, increasing from 46% in 2015-2016 to 53% in 2017-2018 (Figure 48).

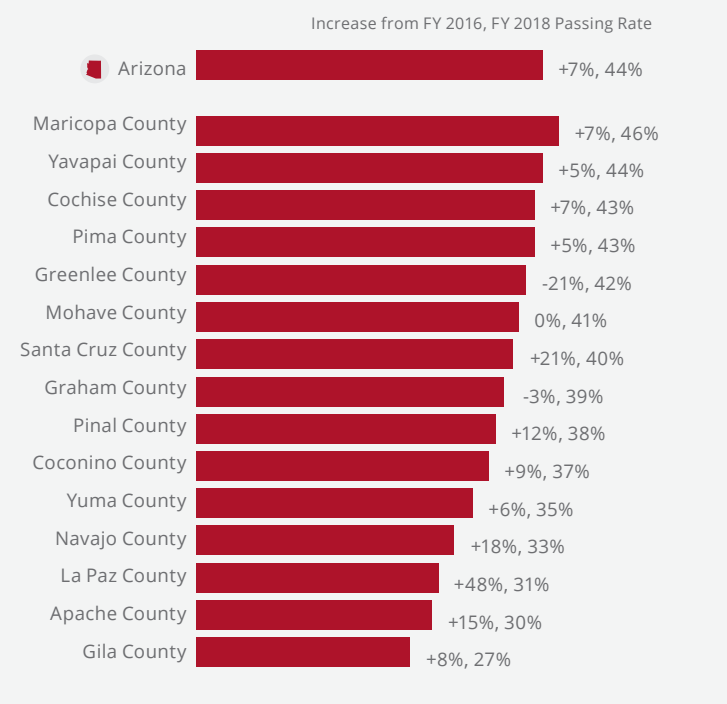
Figure 48: Trends in Passing Rates for 3rd Grade AzMERIT Assessments, 2015-16 to 2017-18



Source: Arizona Department of Education (2019). AzMERIT 2016-2018 Results. Retrieved from www.azed.gov/accountability-research/data/

Though fewer than half of third graders across Arizona passed the AzMERIT English Language Arts Assessment in the 2017-2018 school year, students in many counties had even lower passing rates (Figure 49). Many of the counties with the lowest passing rates for English Language Arts, such as Gila, Apache, and La Paz, are the same counties with the highest chronic absenteeism rates (see Figure 47). However, there were demonstrated improvements across most counties compared to scores in the 2015-2016 school year.[187] Though La Paz County was among the counties with the fewest students passing the English Language Arts Assessment in 2017-2018 (31%), it had the highest demonstrated improvement (+48%) from 2015-2016 to 2017-2018.

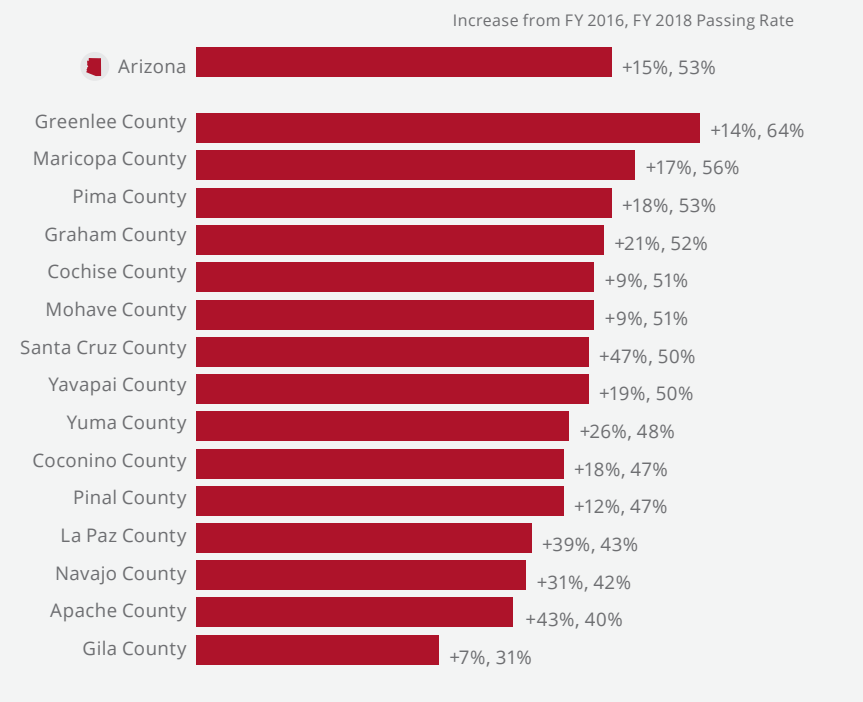
Figure 49: AzMERIT Assessment Results: 3rd Grade English Language Arts, 2017-18



Source: Arizona Department of Education (2019). AzMERIT 2016-2018 Results. Retrieved from www.azed.gov/accountability-research/data/

In spite of continuing challenges with passing rates for the English Language Arts assessment, all Arizona counties showed substantial increases in passing rates for third-grade AzMERIT Math Assessments from 2015-2016 to 2017-2018. (see Figure 50). This is a big win for Arizona students.

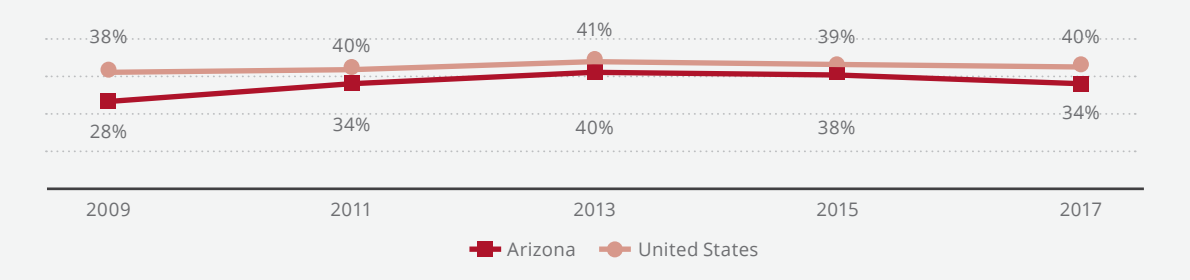
Figure 50: Trends in Passing Rates for 3rd Grade Math AzMERIT Assessments, 2017-18



Source: Arizona Department of Education (2019). AzMERIT 2016-2018 Results. Retrieved from www.azed.gov/accountability-research/data/

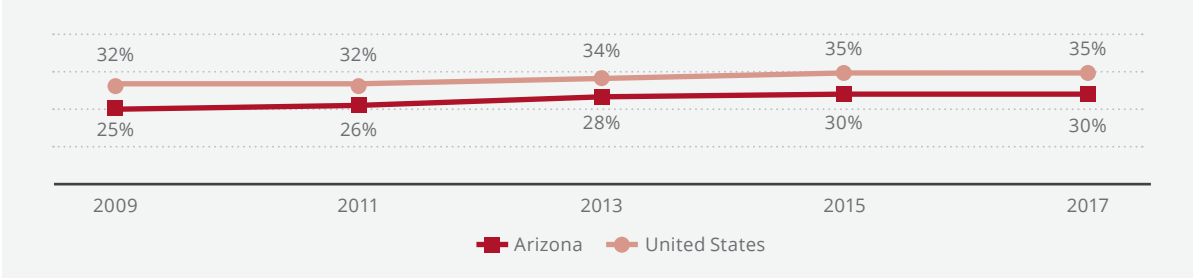
Arizona students may also take the National Assessment of Educational Progress (NAEP) in 4th grade and 8th grade. This national assessment measures students' achievement in core subjects including reading and math. Though the percentage of Arizona students demonstrating proficiency in math and reading on the NAEP has increased since 2009, they continue to fall short compared to those across the nation (Figure 51 & Figure 52).

Figure 51: NAEP Math Scores at or above Proficient Competency, 2009 to 2017



Source: The Nation's Report Card (2019). National Assessment of Educational Progress (NAEP) State Profiles. Retrieved from www.nationsreportcard.gov/profiles/stateprofile

Figure 52: NAEP Reading Scores at or above Proficient Competency, 2009 to 2017

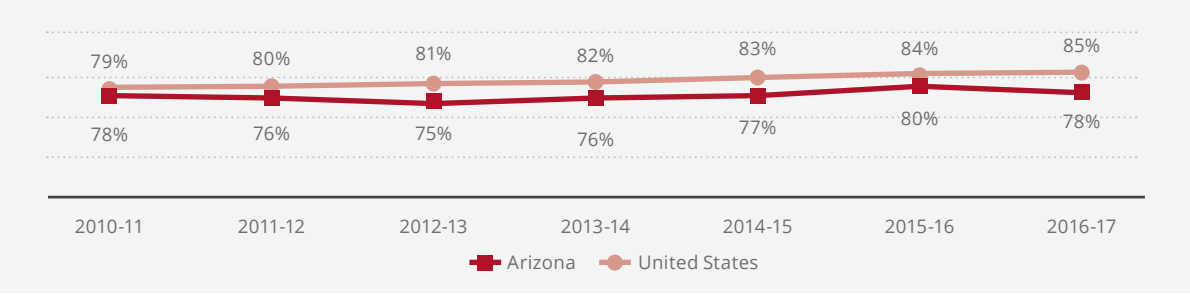


Source: The Nation's Report Card (2019). National Assessment of Educational Progress (NAEP) State Profiles. Retrieved from www.nationsreportcard.gov/profiles/stateprofile

High School Graduation

Understanding current high school graduation and dropout rates within the state provides insight into the assets and challenges faced by a community and its future workforce. Adults who graduated from high school have better health and financial stability, lower risk for incarceration, and better socio-emotional outcomes compared to adults who dropped out of high school.[188,189] Parents with more education are also more likely to have children with positive outcomes related to school readiness and educational achievement, promoting academic success across generations.[190] Despite rising high school graduation rates across the nation, Arizona high school graduation rates are consistently lower compared to rates across the U.S. (Figure 53).

Figure 53: Adjusted Cohort 4-Year Graduation Rates for Arizona and the United States, 2010-11 to 2016-17

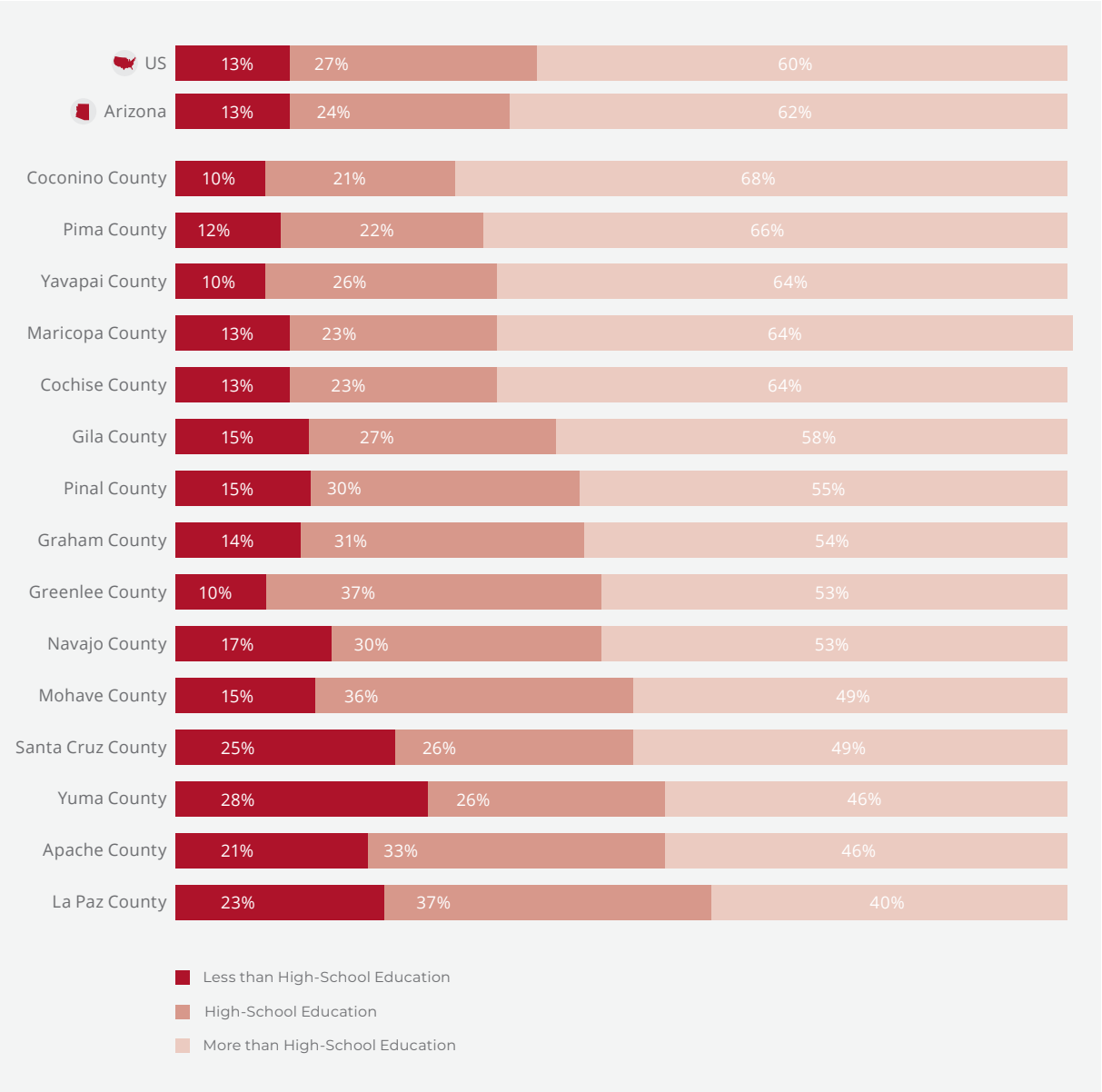


Source: National Center for Education Statistics (2018). Public high school 4-year adjusted cohort graduation rate (ACGR), by selected student characteristics and state: 2010–11 through 2016-2017 [Digest Table 219.46]. Retrieved from www.nces.ed.gov/programs/dropout/tables.asp?refer=dropout

Education Attainment Among Adults

The educational attainment of adults in Arizona counties varies (Figure 52). Five counties have higher percentages of adults with more than a high school education compared to the nation as a whole (60%): Coconino (68%), Pima (66%), Cochise (64%), Maricopa (64%), and Yavapai (64%). In contrast, the percentage of adults who have less than a high school education is high in Yuma (28%), Santa Cruz (25%), La Paz (23%), and Apache counties (21%). Parents with higher education may have greater economic stability and less family stress. This can in turn impact childhood outcomes related to school readiness and educational achievement, as well as improved health, social, and economic outcomes.[191] Two-generation programs are designed to provide targeted family-centered supports to low-income parents and their young children by providing access to education and workforce development for parents and high-quality early education for young children.[192,193] Providing resources and programming to support parental and youth education can help grow the human capital of both.[194]

Figure 51: NAEP Math Scores at or above Proficient Competency, 2009 to 2017



Source: United States Census Bureau (2018). 2013-2017 American Community Survey 5-Year Estimates, Table B15002

ISSUE ESSAY

Taking A Shot Against Disease

In the first nine months of 2019, there were almost 1,250 cases of measles reported in 31 U.S. states. The 22 separate outbreaks resulted in 119 people being hospitalized, including those with complications like pneumonia or encephalitis (brain swelling). No one died, but the series of outbreaks –which threatened our nation's ability to continue declaring the disease eliminated in the U.S. (a status held since 2000) – and the fact that 90% of the cases occurred in individuals who had not been immunized, reignited calls for ensuring all individuals are immunized.[i]

Many of the diseases we rarely hear about today caused significant illness and death at the beginning of the 20th century. For example:

- In 1900, there were 21,064 reported cases of smallpox, including 894 deaths.
- In 1920, there were 469,924 cases of measles reported, including 7,575 deaths.
- Also in 1920, there were 147,991 cases of diphtheria reported, including 13,170 deaths.
- And, in 1922, there were 107,473 pertussis cases reported, including 5,099 deaths.[ii]

Infants are particularly vulnerable to disease because their immune systems have not yet fully developed the ability to fight diseases fast enough if they become infected. That's where vaccines come in. Vaccines expose young children to just enough of certain germs (antigens) to teach their developing immune systems how to produce antibodies that fight the diseases without actually developing the illness.[iii]

The American Academy of Pediatrics recommends children receive vaccinations for 14 preventable illnesses by the time they are 18 months old. The most recent data reveal that too many young children in Arizona are entering school without this crucial protection, placing them and their fellow students at risk, as well as others in the community such as newborns, the elderly, and those whose immune systems are compromised.

In order to attend licensed child care programs and schools, children must obtain all required vaccinations or obtain an official exemption, which can be requested based on specific medical conditions or for religious or personal beliefs.[iv] In recent years, there has been a rise in the percentage of families requesting exemption from required vaccinations for their children in Arizona. In a May 2019 news report, officials noted that the percentage of kindergartners who claim a personal belief exemption from one or more vaccines has increased from 1.4% in 2000 to 5.4% last year. And there was a big jump in the previous 12 months, with the exemption level at 5.9%.[v]

This rise in exemptions is partially explained by a rise in non-medical exemptions – that is, those based on a family's religious or personal beliefs. More than 5% of kindergarteners received a non-medical exemption during the 2017-2018 school year, a 13% increase since the 2013-2014 school year (see Figure 62). Non-medical exemptions requested by families across the country also increased but remained at only 2% in the 2017-2018 school year.

School & Communities At Risk

Increasing exemptions and decreasing vaccination rates are worrisome because in order to assure community immunity of preventable infectious diseases, which also helps to protect unvaccinated children and adults, vaccination rates need to remain high.[vi] For measles, for example, 95% of children need to be vaccinated in order to significantly decrease the likelihood of the disease spreading if one child becomes infected.[vii] This is referred to as community immunity (or herd immunity). Herd immunity also protects individuals who are not yet fully vaccinated (such as infants and toddlers), the elderly, and individuals whose immune systems may be compromised (such as those who have undergone chemotherapy, are taking certain medications or have been recently ill).

This is how herd immunity works in a child's classroom. Germs can travel quickly through a classroom and make many students sick. If enough students get sick, it can lead to an outbreak. But, when enough students have been vaccinated, the disease can't travel as easily from child to child, and the entire classroom – or school – is less likely to get the disease. When more children are vaccinated, the risks of the disease spreading decrease.[viii]

A real-world example of how a reduction in community immunity impacts a large geographic area was seen just this year in New York City. A total of 654 people were infected, including 52 who were hospitalized (16 in intensive care). Almost 3 in 4 of the individuals affected were unvaccinated (73%), and the majority of the cases occurred in just four neighborhoods. New York City spent $6 million battling the outbreak, which included mandatory vaccinations for people living in those four neighborhoods. City officials attributed the outbreak to misinformation in an orthodox religious community about the safety and effectiveness of vaccines. Officials declared the outbreak over on September 3, 2019.[ix]

Given the success of vaccines in virtually eradicating certain diseases and the importance of community immunity to prevent these diseases from re-emerging, why, then, do so many families choose not to vaccinate their children? As mentioned earlier, some children may have medical conditions or come from families whose personal beliefs prevent vaccination. Increasingly, families are choosing not to vaccinate their children due to three primary reasons: 1). the diseases (like polio) are now so rare that parents have no concept of how outbreaks can devastate communities and don't believe their children are at risk; 2). parents fear their children may have an adverse reaction to the vaccine; and 3). parents are being influenced by now-debunked claims that the vaccines led to an increase in autism.[x]

What Arizona Partners Are Doing To Protect Children from Disease

A variety of public and private organizations in Arizona are working to educate parents on the importance and safety of vaccinations. These include:

Governor Doug Ducey – the Governor, whose three children are immunized, has stated publicly that he would not support or sign legislation that might result in fewer children being vaccinated. Those statements are largely believed to have contributed to the failure of three proposed bills in the 2019 state legislative session that would have: expanded exemptions and eliminated the requirement that parents sign documentation in order to receive exemptions; required doctors to do blood tests to check for immunity prior to vaccinating; and mandated that parents receive extensive materials about vaccine risks, including information usually produced for doctors (parents already are given information from the federal Centers for Disease Control regarding the benefits and potential side effects of each vaccine). The Governor also said he was not in favor of completely removing exemptions.[xi]

Arizona Department of Health Services (DHS) collects data on immunization in Arizona and provides a wide array of information for families, communities and school/health professionals to encourage vaccination. As part of its 2020 Healthy People goal, the department has established a state goal of having 80% of all children receiving the recommended doses of seven vaccines by the time they are 18 months to 3 years old. As of September 2016, that rate was 74% nationally and almost 67% in Arizona.

In July 2019, DHS published its Immunization Action Plan, which described the department's recommendations for increasing immunizations rates throughout the state. The recommendations were informed by meetings with health care providers, and private and public institutions. The goals and corresponding recommendations include:

Goal 1: Improve vaccine education to professionals who will interact with parents.

- Develop vaccination education materials for traditional vaccination providers.
- Develop vaccination education materials for non-traditional vaccination providers and health educators,

Goal 2: Implement public information campaigns to promote vaccination.

- Develop plans for regular pro-vaccination campaign messaging.
- Develop pro-vaccination social media messaging.

Goal 3: Evaluate the effectiveness of current vaccine education pilot in reducing exemptions

- Utilize 2019/2020 Immunization Data Report data to assess education course effectiveness in reducing the use of personal beliefs exemptions.

Goal 4: Ensure private providers continue to provide childhood vaccination services.

- Work with vaccination billers and vaccination payers to identify barriers to reimbursement for vaccine counseling.
- Develop materials that clearly define the benefits of VFC program participation and how to enroll.
- Review the recommendations from the Vaccine Financing and Availability Advisory Committee.

Goal 5: Determine best practices for improving vaccination coverage

- Conduct a 50 state review to identify strategies implemented in other states that have proven to be effective at improving vaccination coverage.

Goal 6: Partner with the Department of Education to increase school vaccination rates and compliance.

- Regularly meet with Arizona Department of Education (ADE) staff to identify areas that would benefit from pro-vaccination communication.
- Immunization rule support can be strengthened at the school level.

While the plan was being developed, DHS already had launched a pilot program to reduce the number of personal belief exemptions in schools. In the 2019-2020 school year, there are 244 elementary schools statewide participating in the pilot. In those schools, parents requesting a personal belief exemption are directed to an immunization education course on the department's website. There, parents review modules (based on the vaccines they intend to exempt their child from) and can print the exemption form after completion of the modules. In the schools participating in the pilot program, completing the training is the only way parents can get the exemption.

The Arizona Partnership for Immunization (TAPI) – TAPI is a non-profit statewide coalition of more than 400 members, including DHS; the Arizona Health Care Cost Containment System (AHCCCS); First Things First, county health departments, community health centers and fire departments; commercial and Medicaid health plans; the Arizona Medical Association, the Arizona Chapter of the American Academy of Pediatrics, the Arizona Chapter of the American Association of Family Physicians and the Arizona Osteopathic Medical Association; and corporations, private foundations, professional organizations and children's advocacy groups. TAPI was formed in response to the alarming fact that in 1993, only 43% of Arizona's 2-year-olds were fully immunized against preventable childhood diseases. In addition to building awareness of the importance of vaccinations, TAPI also advocates for effective public policies that promote vaccination. Among TAPI's activities are: trainings for medical providers to improve immunization practices; producing materials and educating child care providers on the importance of immunizations; a project to ensure family members of infants are vaccinated for whooping cough; efforts to improve billing practices for immunization activities; the National Infant Immunization Week campaign; and the annual Big Shots for Arizona Awards Dinner which recognizes individuals and organizations effective in improving immunization practices, including physicians whose offices achieve 90% vaccination rates for their patients.

What Can Families Do

- Talk to your doctor about any vaccine-related concerns.
- Follow the vaccination schedule recommended by the American Academy of Pediatrics.
- Ensure that decisions about vaccination are supported by information from credible sources – like the federal Centers for Disease Control.

What Communities/Schools Can Do

- Seek to respectfully understand the concerns of parents resistant to vaccination.
- Provide fact-based information to all parents about the importance of vaccination and the potential impact to schools of not vaccinating children.

What Policymakers Can Do

- Enact public policies that promote vaccinations, including those that provide fact-based information to families before exemptions are granted.
- Ensure sufficient vaccine is available to meet community needs, etc.
- Ensure all children have access to health insurance.
- Address the lack of providers and/or vaccines in rural/underserved areas.

The preceding article addressed one of the major health issues impacting young children in Arizona. But, there are a variety of health issues and challenges that have the potential to impact children's well-being and long-term success. The following section outlines some of those issues, including how Arizona and its counties are faring.

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i. *Cunningham, A. (2019). The U.S narrowly eked out a measles win, keeping elimination status. Science News. Retrieved from https://www.sciencenews.org/article/united-states-measles-outbreak-elimination-status*

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iv. *Arizona Department of Health Services. (2019). The Arizona immunization handbook for school and childcare programs. Retrieved from https://azdhs.gov/documents/preparedness/epidemiology-disease-control/immunization/school-childcare/nofollow/school-childcare-immunization-guide.pdf*

v. *Fischer, H. (2019). Ducey prefers to educate parents on vaccinations, not force them. Arizona Capitol Times. Retrieved from https://azcapitoltimes.com/news/2019/05/17/ducey-prefers-to-educate-parents-on-vaccinations-not-force-them/*

vi. *Arizona Department of Health Services. (2015). Arizona maternal child health needs assessment. Retrieved from http://azdhs.gov/documents/prevention/womens-childrens-health/reports-fact-sheets/title-v/needs-assessment2015.pdf*

vii. *Office of Disease Prevention and Health Promotion. (2019). Maintain the vaccination coverage level of 2 doses of measles-mumps-rubella (MMR) vaccine for children in kindergarten. Healthy People. Retrieved from https://www.healthypeople.gov/node/4649/data_details*

viii. *U.S Department of Health & Human Services. (2017). Vaccines protect your community. Retrieved from https://www.vaccines.gov/basics/work/protection*

ix. *Sun, L. (2019). New York City declares end to largest measles outbreak in nearly 30 years. The Washington Post. Retrieved from https://www.washingtonpost.com/health/2019/09/03/new-york-city-declares-end-largest-measles-outbreak-nearly-years/*

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xi. *Fischer, H. (2019). Ducey prefers to educate parents on vaccinations, not force them. Arizona Capitol Times. Retrieved from https://azcapitoltimes.com/news/2019/05/17/ducey-prefers-to-educate-parents-on-vaccinations-not-force-them/*

Data Summary: Child Health & Well-Being

Why It Matters

The physical and mental health of both children and their parents are important for optimal child development and well-being. Early childhood health, beginning in utero, has lasting impacts on an individual's quality of life.[195,196] Experiences during the prenatal and early childhood period can result in lifelong impacts on immune functioning, brain development, and risk for chronic diseases.[197,198] Poor health in childhood can also result in lower educational attainment and socioeconomic status in adolescence and adulthood, impacting both an individual's own health and economic well-being and the health and economic well-being of their future children, perpetuating intergenerational poverty.[199]

Adverse childhood experiences (ACEs) also impact children's immediate and long-term well-being. ACEs include eight categories of traumatic or stressful life events experienced before the age of 18 years, including sexual abuse, physical abuse, emotional abuse, household adult mental illness, household substance abuse, domestic violence in the household, incarceration of a household member, and parental divorce or separation.[200] ACEs have been associated with developmental disruption, mental illness, drug and alcohol use, and overall increased health care utilization, with negative outcomes more likely as the number of ACEs an individual experiences increases.[201,202] Therefore, adequate access to health insurance, preventive care, and treatment services are not only vital to support a child's current health, but for their long-term development and future well-being.[203,204,205]

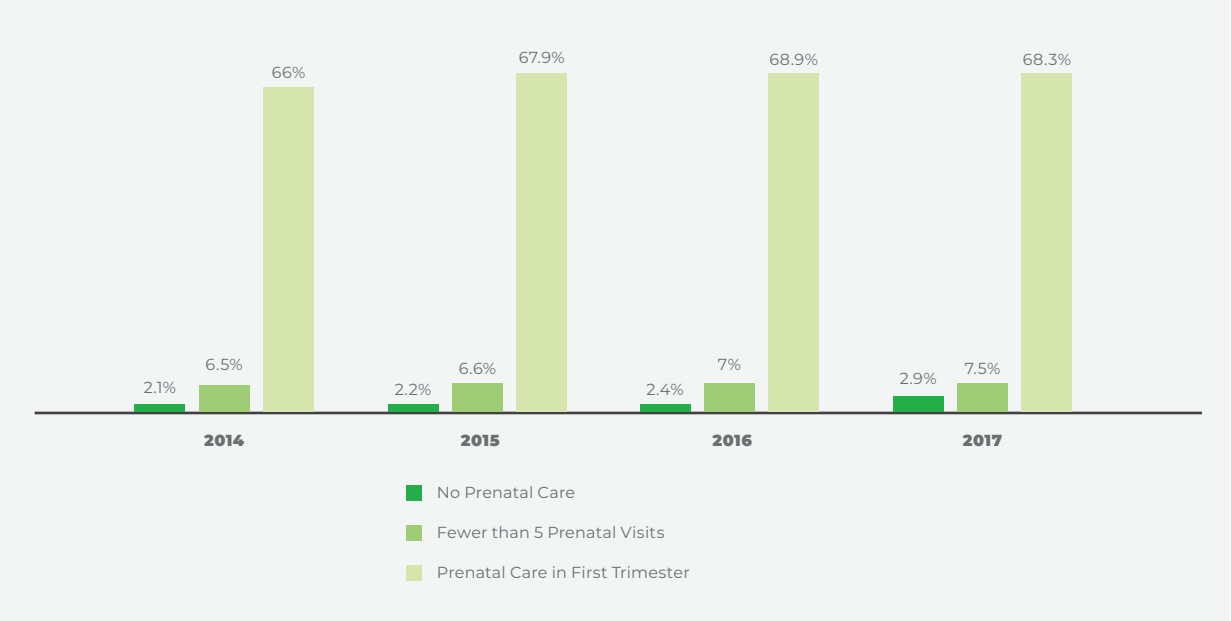
One way to assess how well young children in the state are faring in terms of health is by comparing Arizona against an established goal. Healthy People 2020 is a federal initiative that provides 10-year national science-based objectives for improving the health of people of all ages across the country.[206] Using the Healthy People 2020 indicators as a tool for comparison can help us understand where Arizona falls, relative to the nation as a whole, and can help identify particular areas of strength and needed improvements in young children's health across the state.

How Arizona's Young Children Are Faring

Prenatal Care

Prenatal care starting early in pregnancy and continuing at regular intervals to delivery can help reduce the risk of complications during pregnancy and improve health outcomes for infants.[207,208,209] In Arizona, rates of women obtaining early (first trimester) prenatal care are considerably below the Healthy People 2020 objective of at least 77.9% (See Figure 55). In addition, a growing proportion of Arizona women are receiving little (fewer than 5 visits) or no prenatal care at all. The proportion with no prenatal care in 2016 (2.4%) is higher than the national rate (1.6%).[210] Delayed and inadequate prenatal care has been linked to preterm births and infants with low birthweight.[211,212]

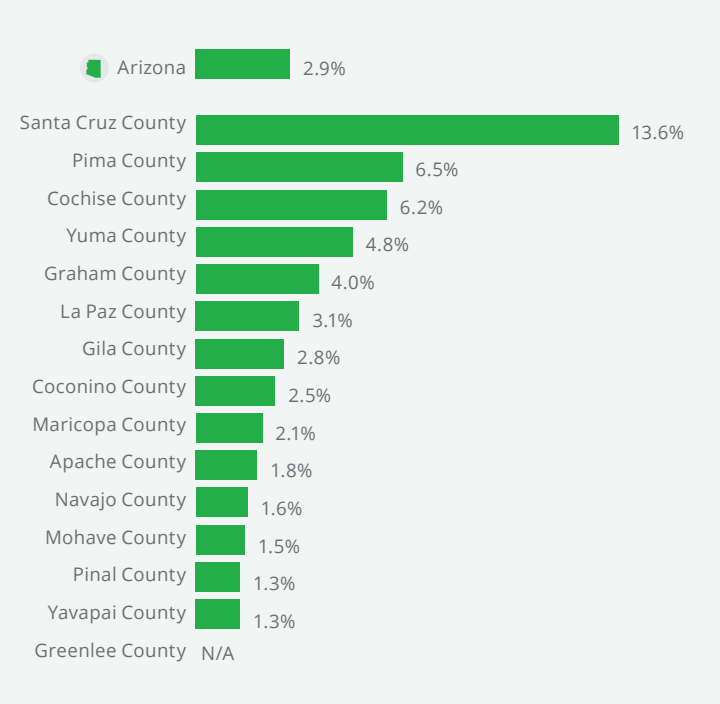
Figure 55: Trends in Mothers Receiving Prenatal Care, 2014 to 2017



Source: ADHS Arizona Health Status and Vital Statistics. Office of Disease Prevention and Health Promotion (2019). Healthy People 2020: Maternal, Infant, and Child Health, Indicator MICH-10.1. Retrieved from www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

Counties along the southern border have the highest percentages of pregnant women who did not access prenatal care at all during their pregnancy: Santa Cruz (14%), Pima (6%), Cochise (6%), and Yuma (5%; see Figure 56). Though rates have been largely stable in most counties, rates in both Pima (4%, 5%, 6%) and Santa Cruz (8%, 11%, 14%) counties rose from 2015 to 2017, and rates in Gila (7%, 5%, 3%) have been falling.

Figure 56: Percent of Births in 2017 to Mothers Who Had No Prenatal Care

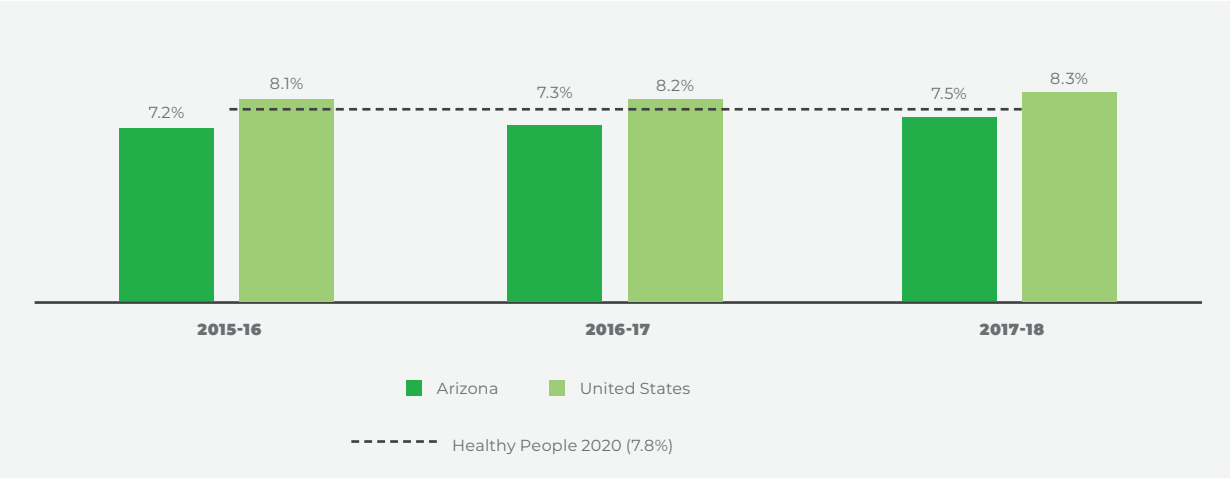


Source: ADHS Arizona Health Status and Vital Statistics. Office of Disease Prevention and Health Promotion (2019). Healthy People 2020: Maternal, Infant, and Child Health, Indicator MICH-10.1. Retrieved from www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

Preterm Birth and Low Birth Weight

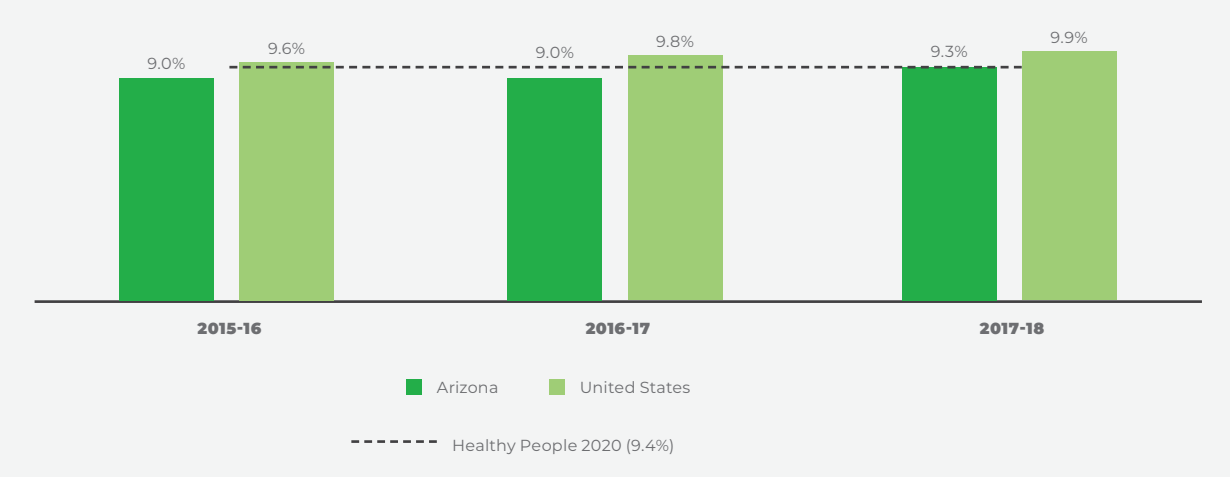
In addition to being associated with higher infant and child mortality, preterm birth (before 37 weeks gestation) often results in longer hospitalization, increased health care costs, and longer-term impacts such as physical and developmental impairments.[213] Babies born at a low birth weight (less than 5 pounds, 8 ounces) are also at increased risk of infant mortality and longer-term health problems such as diabetes, hypertension, and cardiac disease.[214] National Healthy People 2020 targets are to reduce the proportion of low birthweight infants to 7.8% and reduce the proportion of preterm births to 9.4%.[215] As of 2017, Arizona meets Healthy People 2020 objectives for low birth weight (7.5%) and pre-term births (9.3%; see Figure 57 & Figure 58); the U.S. as a whole, does not. However, rates of both have been increasing in Arizona. Because prenatal care has been shown to reduce these conditions, efforts to engage more women in early and adequate prenatal care could help improve birth outcomes for Arizona babies.

Figure 57: Percent of Babies Born With Low Birth Weight (Less Than 2,500 Grams)



Source: ADHS Arizona Health Status and Vital Statistics, and Table 5B-30. Office of Disease Prevention and Health Promotion (2019). Healthy People 2020: Maternal, Infant, and Child Health, Indicators MICH-11.3, MICH-8.1, & MICH-9.1. Retrieved from www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

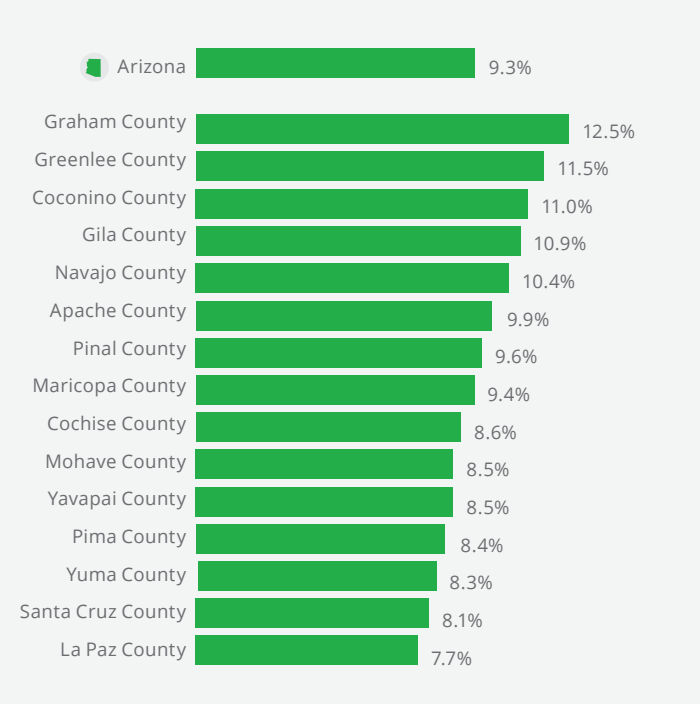
Figure 58: Percent of Babies Born Preterm (Less Than 37 Weeks)



Source: ADHS Arizona Health Status and Vital Statistics, and Table 5B-30. Office of Disease Prevention and Health Promotion (2019). Healthy People 2020: Maternal, Infant, and Child Health, Indicators MICH-11.3, MICH-8.1, & MICH-9.1. Retrieved from www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

About half of Arizona's counties have achieved the Healthy People 2020 goal of fewer than 9.4% of births happening pre-term (see Figure 59). Ten counties met the Healthy People 2020 objectives for infants with low birth weight (7.8%) (see Figure 60), and five counties, Coconino,[l] Gila, Greenlee, and Navajo counties did not meet either Healthy People 2020 objective, suggesting that attention is especially needed in these areas to address issues leading to low birth weight and preterm births.

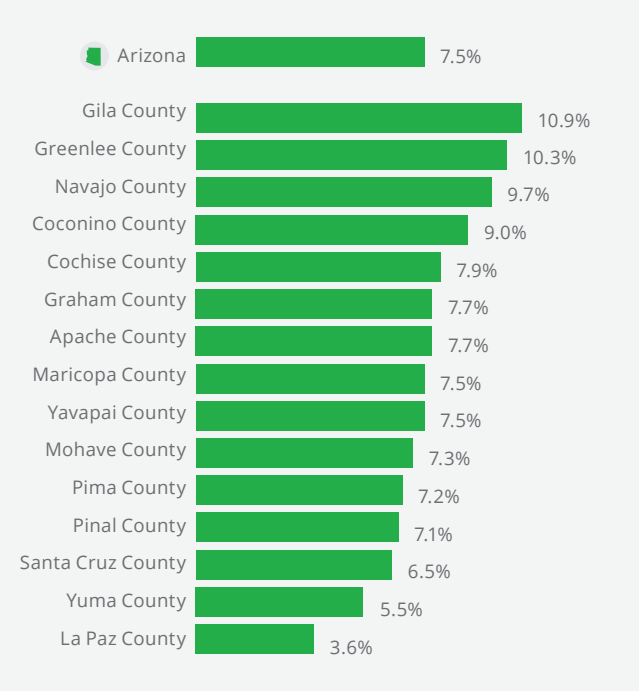
Figure 59: Percent of Babies Born Preterm (Less Than 37 Weeks) in 2017



Source: ADHS Arizona Health Status and Vital Statistics, and Table 5B-30. Office of Disease Prevention and Health Promotion (2019). Healthy People 2020: Maternal, Infant, and Child Health, Indicators MICH-11.3, MICH-8.1, & MICH-9.1. Retrieved from www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

l. High rates of low birthweight births in Coconino may partially be due to the effects of high altitude on fetal development. A 1997 study in Colorado found that birthweight declined an average of 102 g per 1000 meters of elevation gain.

Figure 60: Percent of Babies Born With Low Birth Weight in 2017 (Less Than 2,500 Grams)

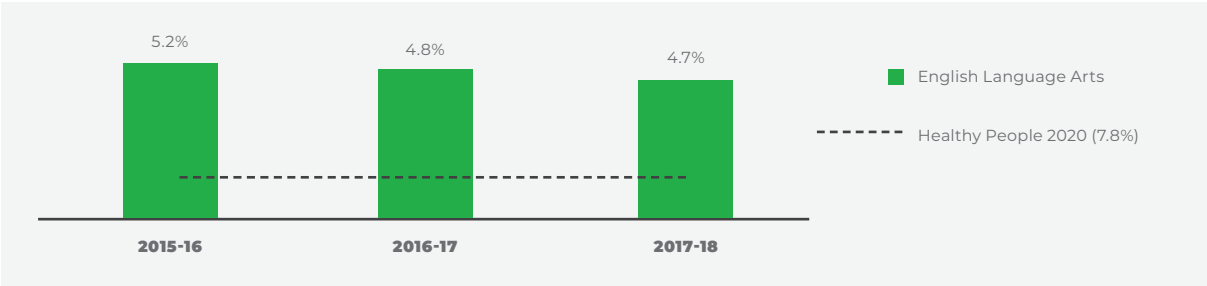


Source: ADHS Arizona Health Status and Vital Statistics, and Table 5B-30. Office of Disease Prevention and Health Promotion (2019). Healthy People 2020: Maternal, Infant, and Child Health, Indicators MICH-11.3, MICH-8.1, & MICH-9.1. Retrieved from www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

Tobacco and Opioid Use

Tobacco use during pregnancy can also contribute to preterm birth and low birth weight.[216] In Arizona, 4.7% of pregnant mothers in Arizona used tobacco while pregnant in 2017,[m] a number that is declining and exceeds the Healthy People 2020 objective target (1.4%; see Figure 61). Though it exceeds the Healthy People 2020 target, Arizona has one of the lowest rates of smoking while pregnant in the United States. In 2016, 7.2% of women nationwide reported smoking during pregnancy, with the highest prevalence in West Virginia (25.1%).[217] Arizona children are also less likely to live in a household with tobacco use (8.6%) compared to children across the country (14.4%).[218]

Figure 61: Percent of Births to Mothers Who Used Tobacco During Pregnancy

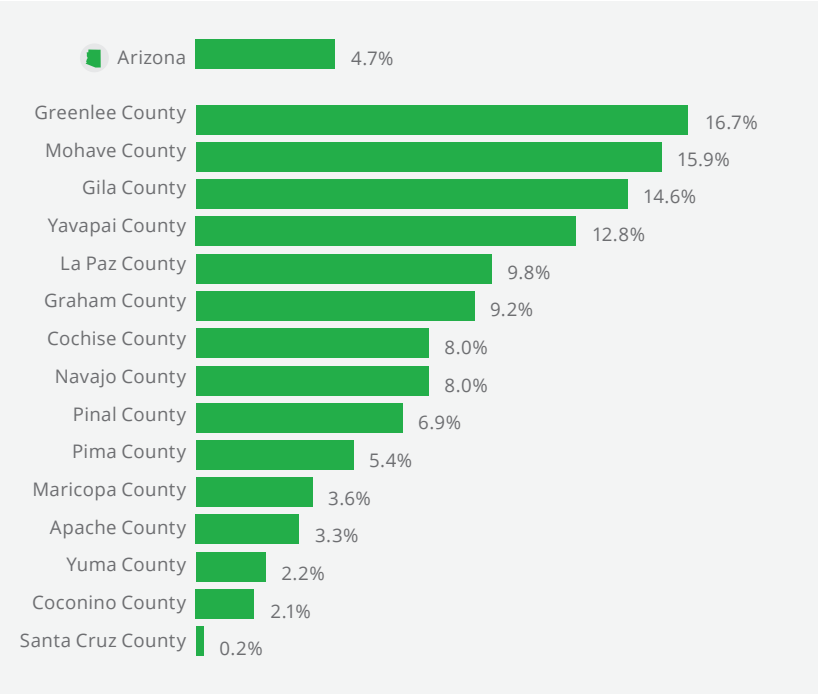


Source: ADHS Arizona Health Status and Vital Statistics, and Table 5B-30. Office of Disease Prevention and Health Promotion (2019). Healthy People 2020: Maternal, Infant, and Child Health, Indicators MICH-11.3, MICH-8.1, & MICH-9.1. Retrieved from www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

m. Note that this is likely a slight underestimate. There is a proportion of mothers (under 1%) for whom tobacco use is unknown and at least some of those are likely to be tobacco-users.

Two Arizona counties met or were approaching the Healthy People 2020 target for reducing the percentage of mothers who smoke during pregnancy (1.4%), Santa Cruz (0.2%) and Coconino (1.8%; see Figure 62). The counties with the most alarming percentages of smoking during pregnancy include: Greenlee (16.7%), Mohave (15.9%), Gila (14.6%), and Yavapai (12.8%). Although tobacco use during pregnancy showed declines in Arizona as a whole between 2015 and 2017 (-13%), Greenlee (+86%) and Navajo (+5%) counties saw increases in mothers using tobacco while pregnant.

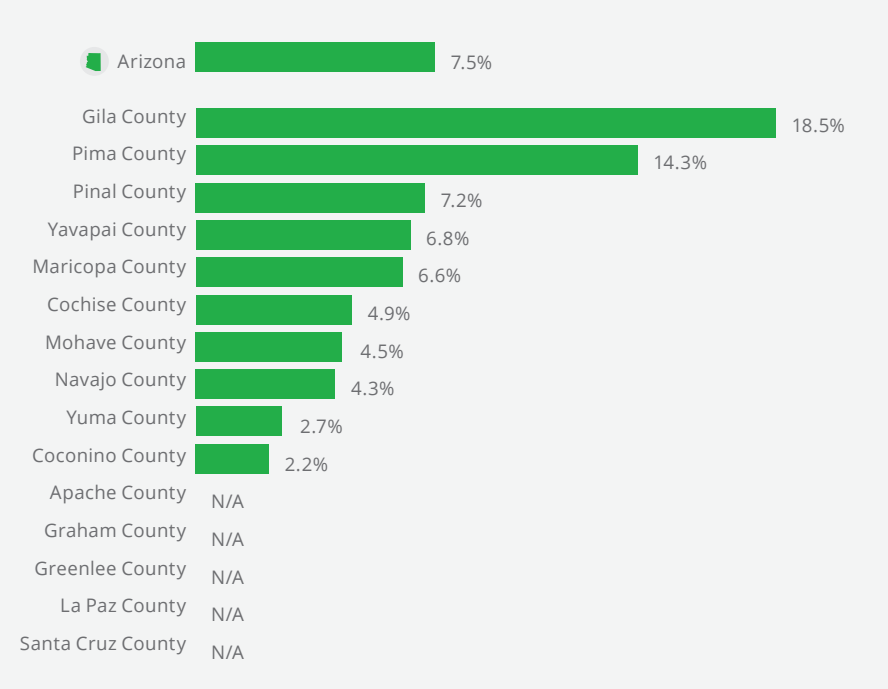
Figure 62: Percent of Births in 2017 to Mothers Who Used Tobacco During Pregnancy



Source: ADHS Arizona Health Status and Vital Statisti cs, and Table 5B-30. Office of Disease Prevention and Health Promotion (2019). Healthy People 2020: Maternal, Infant, and Child Health, Indicators MICH-11.3, MICH-8.1, & MICH-9.1. Retrieved from www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

Infants exposed to opioids while in the womb can be born with neonatal abstinence syndrome (NAS), which can result in reduced fetal growth, birth defects, and seizures.[219] Arizona is one of six states that has been proactive in tracking neonatal abstinence syndrome.[220] The rate of neonatal abstinence syndrome among infants born in Arizona was 7.5 babies per 1,000 births (see Figure 63). Pima (14.3 babies per 1,000 births) and Gila (18.5 babies per 1,000 births) counties had rates substantially above the state average. Nationwide, there was a more than five-fold increase in babies born with NAS between 2004 and 2014.[221] This syndrome carries with it ballooning medical costs as well, further establishing the need to address the opioid epidemic.[222]

Figure 63: Rates of Neonatal Abstinence Syndrome (per 1,000 Births) Among Infants Born in Arizona in 2016 and 2017



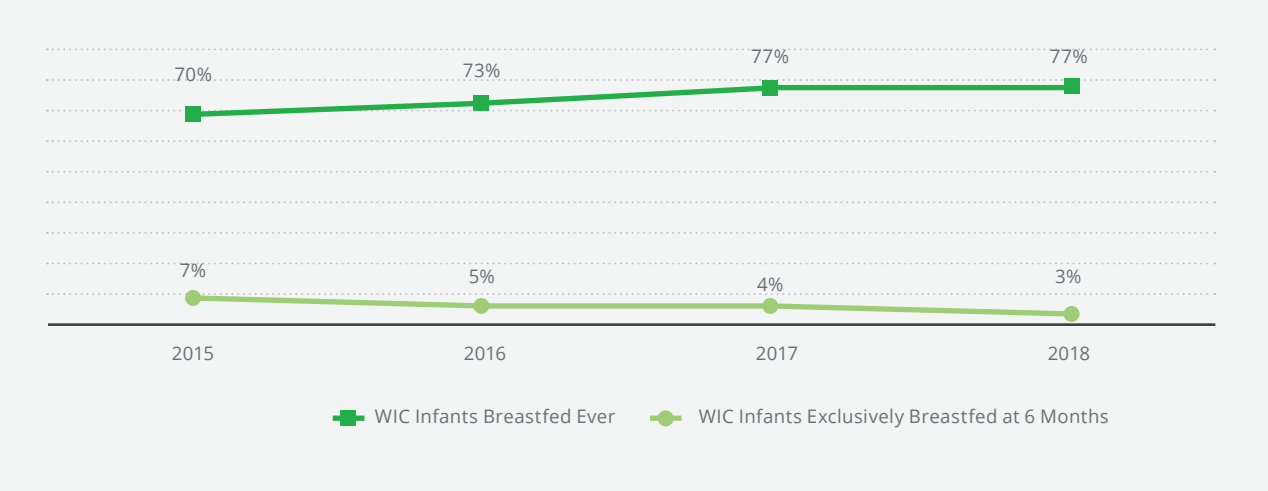
Sources: Arizona Opioid Emergency Response Report, June 2017-June 2018 and www.pub.azdhs.gov/health-stats/hip/for/substance/2017/drugc117.xlsx
Note: Counties listed as #N/A had data suppressed because of low (fewer than 6) cases

Breastfeeding

The American Academy of Pediatrics recommends that babies consume only breastmilk for the first six months of their lives.[223] Breastfeeding has been associated with improved health outcomes for infants and young children, reducing the risk of ear, respiratory, and gastrointestinal infections, Sudden Unexpected Infant Death (SUID), being overweight, and type 2 diabetes.[224] Studies also note positive health effects for mothers, including protection against breast cancer.[225] It is estimated that low rates of exclusive breastfeeding costs the U.S. over $28 million in health system expenses related to treating these preventable illnesses.[226]

The Bureau of Nutrition and Physical Activity provides data on breastfeeding practices among families enrolled in the Supplemental Nutrition Program for Women, Infants, and Children (WIC). Though there has been a rising trend in WIC-enrolled infants in Arizona who have been breast fed at some point in their lives, there is a declining trend in infants who were exclusively breast fed at 6 months of age (see Figure 64). Neither proportion meets the Healthy People 2020 objectives (81.9 % ever breastfed; 25.5% exclusively breastfed at 6 months). It is not known how similar the breastfeeding rates and trends are for WIC-enrolled mothers and other mothers in Arizona. Although breastfeeding has been a major initiative of WIC programs in recent years, nationwide, breastfeeding among WIC participants has tended to be lower than among other mothers.[227,228,229]

Figure 64: Trends in Breastfeeding for WIC Infants, 2015 to 2018



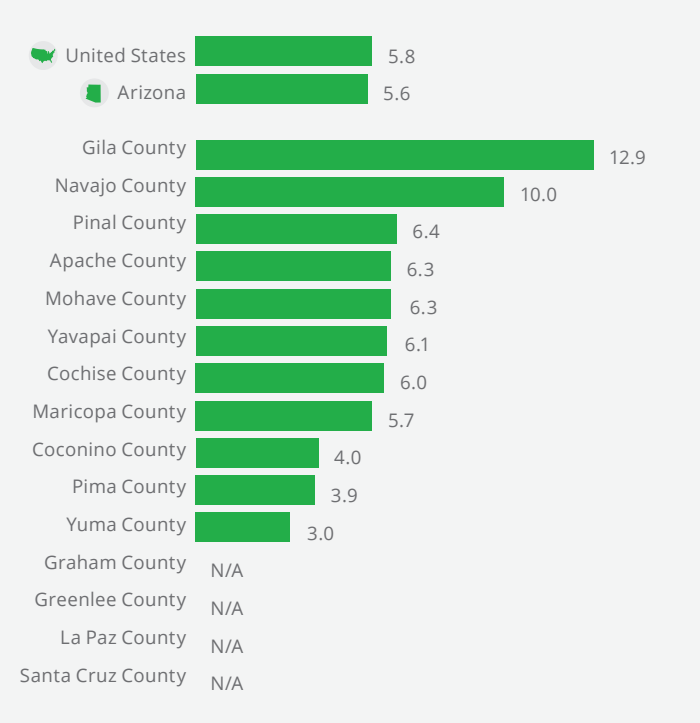
Source: FFY 2019 Goals & Objectives, Bureau of Nutrition and Physical Activity, and preliminary 2018 data from T Lowry

Infant and Child Mortality

The infant mortality rate in Arizona as of 2017 was 5.6 deaths per 1,000 live births.[230] Although any instances of infant death are a tragic loss, this rate is lower compared to the rate across the U.S. (5.9 per 1,000 births), and does meet the Healthy People 2020 objective target (6 per 1,000 births). Arizona ranks in the middle of U.S. states in terms of infant mortality, with the 20th lowest infant mortality rate nationwide.[231]

Of the 11 counties for which data were available, five met the Healthy People 2020 objective of having no more than six deaths in the first year of life per 1,000 births (see Figure 65). Gila (12.9 deaths per 1,000 births) and Navajo (10 deaths per 1,000 births) counties had rates considerably higher than the rest of the state. However, in less populated areas where there are relatively few children -- like Gila County -- the mortality rate can swing dramatically with the death of just one or two children.

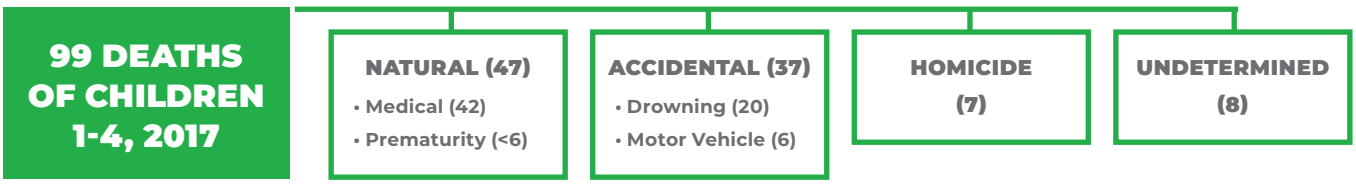
Figure 65: Infant Mortality Rates (Number of Deaths per 1,000 Births) in 2017



Source: ADHS Arizona Health Status and Vital Statistics, and Table 5B-30. Office of Disease Prevention and Health Promotion (2019). Healthy People 2020: Maternal, Infant, and Child Health, Indicators MICH-11.3, MICH-8.1, & MICH-9.1. Retrieved from www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives

However, the same cannot be said for child mortality for children ages 1 to 4. The mortality rate for young children in Arizona in 2017 was 28 deaths per 100,000 children (99 children in 2017).[232] This rate is higher than the national child mortality rate (24.3 per 100,000 children) and does not meet the Healthy People 2020 target (26.5 per 100,000 children). Of the 39 states with available child mortality data, Arizona had the 12th highest child mortality rate.[233] In 2017, 47% of these deaths were due to natural (primarily medical) causes, but 37% of young child deaths were accidental (primarily drowning or motor vehicle accidents) and 7% were homicide (Figure 66).[234,235] Many of these deaths are preventable, prompting the Arizona Department of Health Services to convene an ongoing Injury Prevention Advisory Council, and to develop the Arizona Injury Surveillance and Prevention Plan, which outlines strategies for addressing the challenge of keeping children safe.[236]

Figure 66: Top causes of death in children (1-4), 2017

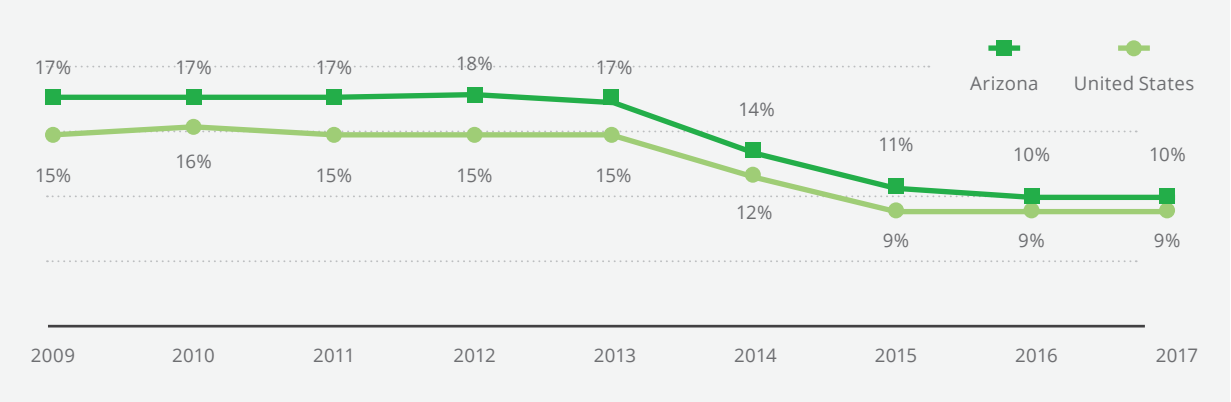


Source: Table 57, Annual Child Fatality Review Report, November 2018 (Arizona); Office of Disease Prevention and Health Promotion (2019). Retrieved from: www.azdhs.gov/documents/prevention/womens-childrens-health/reports-fact-sheets/child-fatality-review-annual-reports/cfr-annual-report-2018.pdf

Health Insurance Coverage

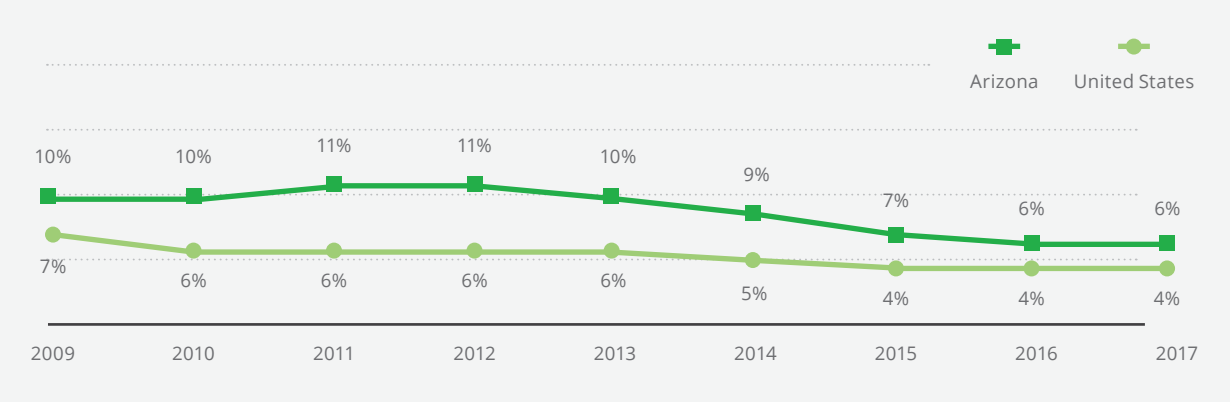
The ability to obtain health care is critical for supporting the health of pregnant mothers and young children. In the early years of a child's life, well-baby and well-child visits allow clinicians to assess the child's development by administering developmental screenings and offering developmentally appropriate information and guidance to parents.[237] Families without health insurance are more likely to skip these visits, are less likely to receive preventive care for their children, and are less likely to receive care for their children's health conditions and chronic diseases.[238,239] Children who lack health insurance are also more likely to be hospitalized and to miss school.[240] Access to health insurance is a key indicator of children's access to health services and well-being. A higher percentage of Arizona residents live without health insurance (10%) compared to the overall U.S. population (9%; see Figure 67). This is also true for children birth to five years (6% compared to 4% nationally; Figure 68). Though the proportion of uninsured Arizonans has been consistently higher than national rates, there has been a steady decrease in the proportion of uninsured Arizonans since the Great Recession.

Figure 67: Population (All Ages) Without Health Insurance, 2009 to 2017



Source: U.S. Census Bureau (2019). 2005-2017 American Community Survey Single Year Estimates, Table B27001. Retrieved from www.factfinder.census.gov

Figure 68: Young Children (Ages 0 to 5) Without Health Insurance, 2009 to 2017

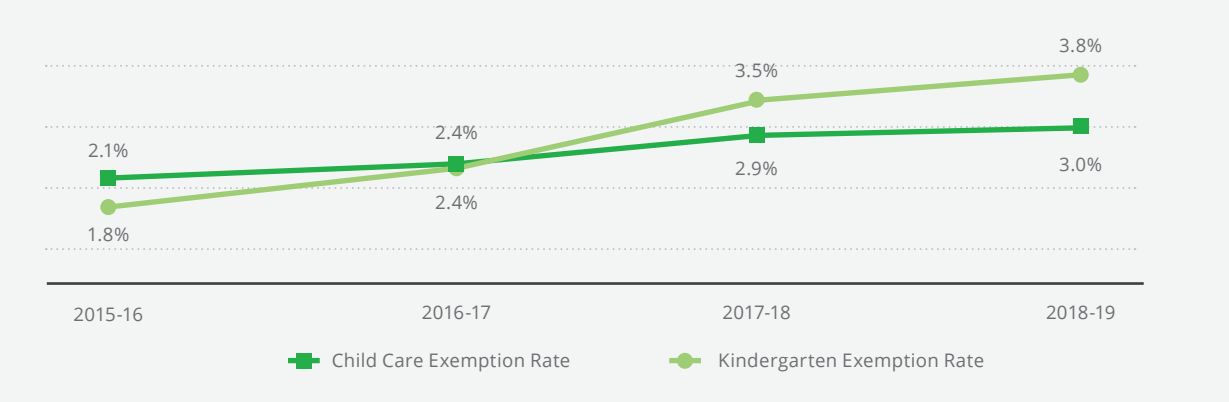


Source: U.S. Census Bureau (2019). 2005-2017 American Community Survey Single Year Estimates, Table B27001. Retrieved from www.factfinder.census.gov

Vaccinations

Vaccination against preventable diseases protects children and the surrounding community from illness and potentially death. In order to attend licensed child care programs and schools, children must obtain all required vaccinations or obtain an official exemption, which can be requested based on specific medical conditions or religious beliefs.[241] In recent years, there has been a rise in the percentage of families requesting exemption from required vaccinations for their children in Arizona. During the 2018-2019 school year, 43% more families with a young child in child care received an exemption from all required vaccinations compared to three years earlier. In other words, 43% more children in child care environments received no vaccination against infectious diseases. In kindergarten, this percentage more than doubled compared to three years earlier, with 3.8% of families receiving an exemption (see Figure 69). These trends are worrisome because in order to assure community immunity of preventable infectious diseases, which also helps to protect unvaccinated children and adults, vaccination rates need to remain high.[242] For measles, for example, between 90 and 95% of children need to be vaccinated in order to prevent the disease spreading if one child becomes infected.[243]

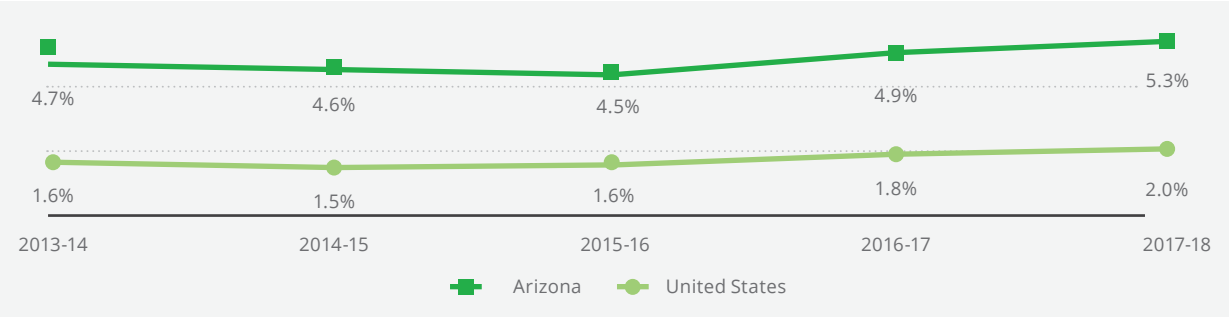
Figure 69: Trends in Exemption Rates From All Required Vaccines in Child Care and Kindergarten



Source: Arizona Department of Health Services (2019). Childcare Immunization Coverage by County, 2015-2016 through 2018-2019 School Years. Retrieved from www.azdhs.gov/preparedness/epidemiology-disease-control/immunization/index.php#reports-immunization-coverage

While the percentage of kindergarteners in Arizona with medical exemptions has stayed relatively consistent (between 0.3% and 0.7%) since the 2013-2014 school year,[244] the percentage of children with non-medical exemptions, that is, those based on a family's religious or personal beliefs, has continued to increase. More than 5% of kindergarteners received a non-medical exemption from all required vaccinations during the 2017-2018 school year, a 13% increase since the 2013-2014 school year (see Figure 70). Non-medical exemptions requested by families across the country also increased but remained at only 2% in the 2017-2018 school year.

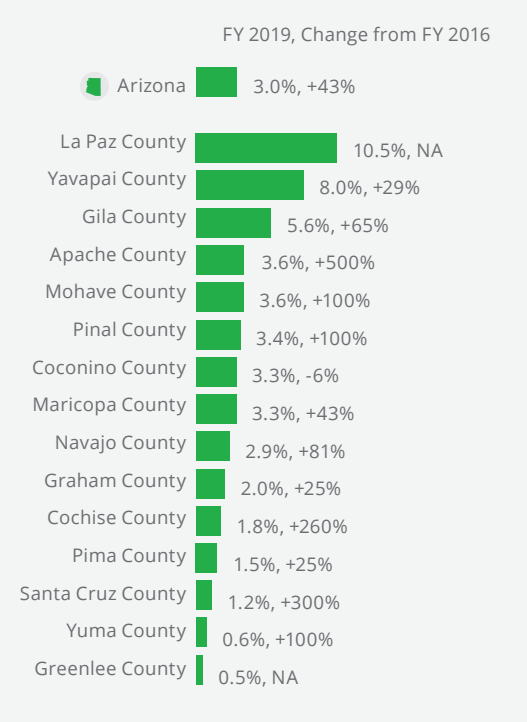
Figure 70: Kindergarten non-medical vaccine exemption rates, 2013-14 to 2017-18



Source: Centers for Disease Control (2019). SchoolVaxView: Interactive Viewer for Data from Annual School Assessment Reports. Retrieved from www.cdc.gov/vaccines/imz-managers/coverage/schoolvaxview/index.html

Nearly all counties saw an increase in the percentage of families receiving exemptions from all required vaccinations between the 2015-2016 school year and the 2018-2019 school year. The percentage of families with young children attending child care receiving vaccination exemptions in Cochise, Santa Cruz, and Apache counties increased substantially between the 2015-2016 school year and the 2018-2019 school year (see Figure 71). Only Coconino County experienced a decrease (-6%) in child care exemptions (from 3.5% in 2016 to 3.3% in 2019). Children in child care in Gila, Yavapai, and La Paz counties would be particularly vulnerable to a highly contagious disease such as measles (which requires 90-95% of the population to be vaccinated for community protection).[245]

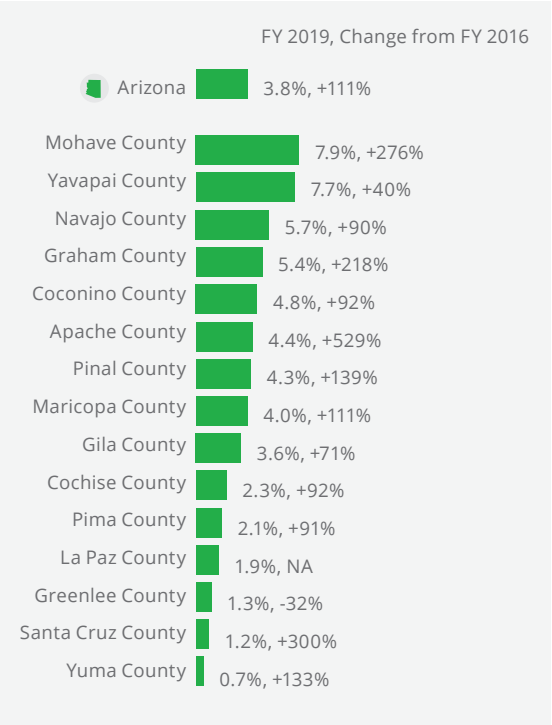
Figure 71: Rate of exemptions from all required vaccines for children in child care (FY19)



Source: Arizona Department of Health Services (2019). Childcare Immunization Coverage by County, 2015-2016 through 2018-2019 School Years. Retrieved from www.azdhs.gov/preparedness/epidemiology-disease-control/immunization/index.php#reports-immunization-coverage

Following the trends in child care, the proportion of children enrolled in kindergarten with exemptions from all required vaccinations increased in most counties between the 2015-2016 school year and the 2018-2019 school year. Rates in Apache, Santa Cruz, Mohave, and Graham counties more than tripled, and only Greenlee saw a decrease (see Figure 72). Over a quarter of counties now have kindergarten exemption rates over 5%, leaving them at risk for measles and other vaccine-preventable contagious disease outbreaks.

Figure 72: Rate of exemptions from all required vaccines for children in kindergarten (FY19)

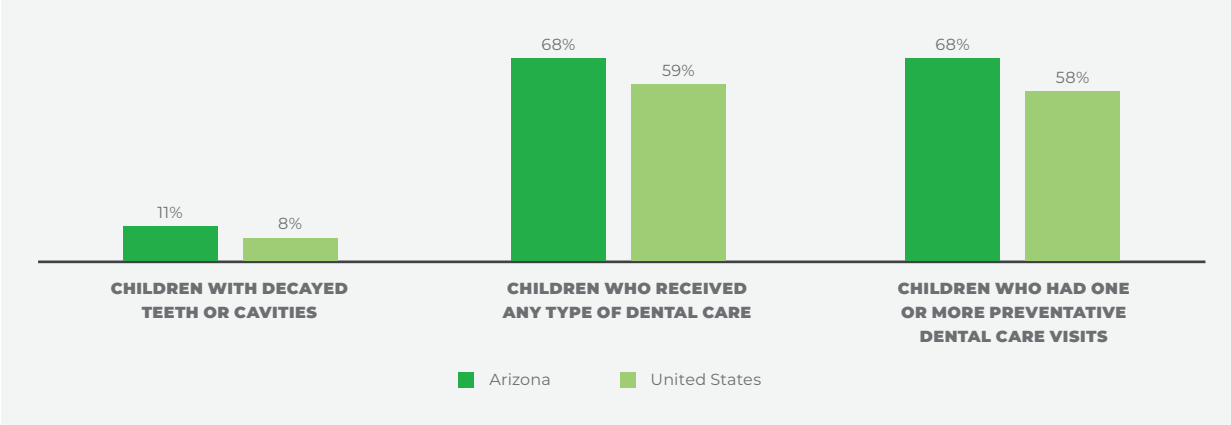


Source: Arizona Department of Health Services (2019). Kindergarten Immunization Coverage by County, 2015-2016 through 2018-2019 School Years. Retrieved from: www.azdhs.gov/preparedness/epidemiology-disease-control/immunization/index.php#reports-immunization-coverage

Oral Health

Good oral hygiene practices along with access to dental preventative care are important to children's overall health. Tooth decay and early childhood cavities can have short- and long-term consequences including pain, poor appetite, disturbed sleep, lost school days, and reduced ability to learn and concentrate.[246] Despite high percentages of young Arizona children who have preventative dental care visits (68.4%) compared to the national average (57.8%), there is a relatively high percentage who have had decayed teeth or cavities (11.1%) compared to those across the nation overall (7.7%) (see Figure 73).

Figure 73: Oral Health Status of Children in Arizona and the United States, 2016-17



Source: Child and Adolescent Health Measurement Initiative (2018). National Survey of Children's Health 2016-2017. Data Resource Center for Child and Adolescent Health supported by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). Retrieved on 08 July 2019 from www.childhealthdata.org

Many children have access to oral health care through private insurance, or for qualifying families, through the Arizona Health Care Cost Containment System (AHCCCS). In addition, many community partners are working to build awareness of the importance or oral health care in the early years and to connect families to services in their communities. First Things First is one of those partners. In state fiscal year 2019. FTF provided 24,664 children birth to age 5 with a dental screening, and 16,837 children with a fluoride varnish.[247] Many children had untreated tooth decay and other oral health needs identified through the screenings. Further, attempts were made to connect children to dental homes who either did not already have a dental home or who needed dental care.

Adverse Childhood Experiences

Adverse Childhood Experiences (ACEs), including abuse, neglect, and household dysfunction, have long-term impacts on the physical and mental health of children (see essay Pages 10-16).[n] Both one's cumulative number of ACEs and specific adverse experiences have been linked to long-term negative health outcomes.[248] Children facing ACEs are likely to need additional supports and resources to assure they reach their optimal development.

According to the latest National Survey of Children's Health, out of all 50 states and D.C., only Oklahoma (47.9%) has a higher proportion of children birth to 5 who have experienced at least one ACE compared to Arizona (43.7%). Arizona young children are more likely to have two or more ACEs (17.9%) than children in the U.S. as a whole (11.5%).[249] In particular, Arizona's young children experience more ACEs related to substance use, mental illness, violence, incarceration, and parental divorce/separation. The same survey also indicated that Arizona families have trouble coping with difficulties. Arizona placed last in a measure of family resilience during difficult times,[o] with only 77% of families reporting consistently resilient approaches compared to 80% of families nationwide.[250] About 10% of Arizona families reported a lack of resilient coping strategies, indicating a need for additional parental support and education.

n. In this data source, ACEs include 9 categories of traumatic or stressful life events experienced before the age of 18 years. The 9 ACE categories are economic hardship, parental separation or divorce, parental death, parental incarceration, witnessing domestic violence, neighborhood violence, household mental illness, household substance abuse, and racial/ethnic discrimination.

o. This measure asked families how often they dealt with difficulties in the following ways: (a) Talk together about what to do, (b) Work together to solve our problems, (c) Know we have strengths to draw on, and (d) Stay hopeful even in difficult times. Families were considered resilient if they answered either most or all of the time.

Figure 74: Department of Child Safety (DCS) reports for children (0-17)

Source: Arizona Department of Child Safety (2019). Semi-Annual Child Welfare Report. Retrieved from www.dcs.az.gov/DCS-Dashboard

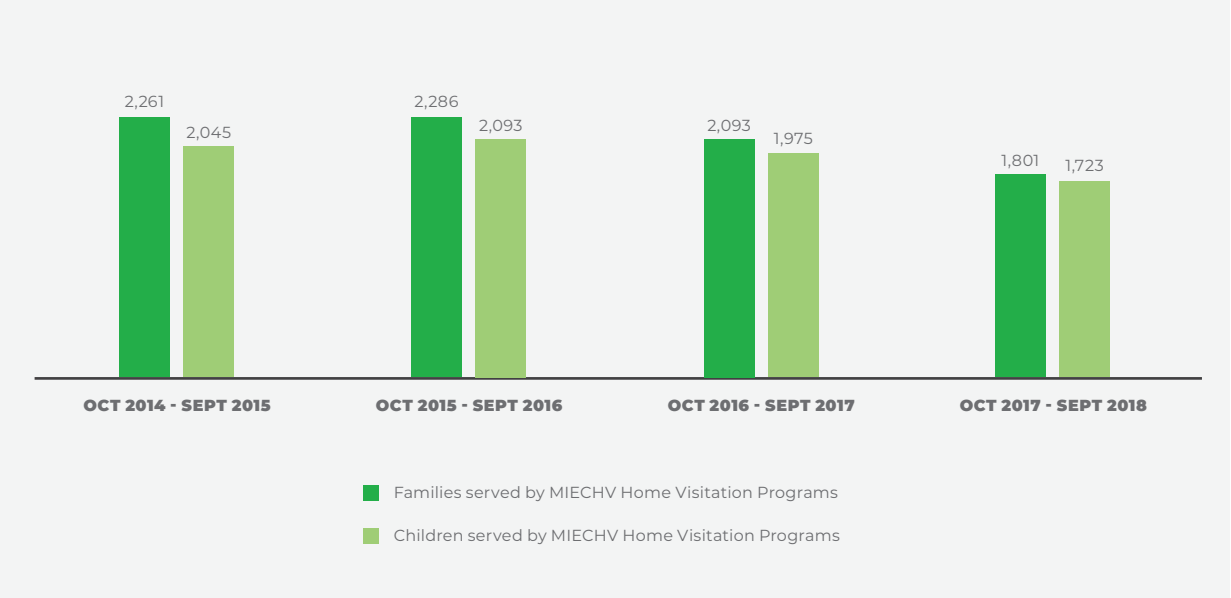
Home Visitation Services

Focusing on evidence-based targeted interventions for families at risk of child removal may help reduce placements in the foster care system.[254] Access to supports such as home visitation during pregnancy and into the early years of parenthood can foster positive outcomes for mother, father, baby, caregivers, and family. Home visitation programs have been proven to prevent child abuse and neglect, or their recurrence, improving feelings of capability and control in parenting.[255]

The federal Maternal, Infant, and Early Childhood Home Visiting Program (MIECHV) is administered by the Health Resources and Services Administration (HRSA) in close partnership with the Administration for Children and Families (ACF), and is one of multiple home visitation programs serving families in Arizona. MIECHV supports at-risk pregnant women and families, and helps parents tap the resources and hone the skills they need to raise children who are physically, socially, and emotionally healthy and ready to learn. There has been a decrease in the number of families and children served by MIECHV in Arizona over the past few years (see Figure 65). Federal funding provided to Arizona to support its MIECHV programming declined between FY2015 and FY2017, which may partially explain the decrease in the number of families and children served by MIECHV in Arizona over the past few years.[256,257,258,259]

In addition to MIECHV funding, First Things First also supports evidenced-based home visitation services for Arizona families with young children. In SFY19, 3,738 families received services through FTF-funded home visiting.[260] This included 4,465 children that received monitoring and/or screenings to detect vision, hearing and developmental issues to prevent learning challenges later in life.

Figure 75: Numbers of Families and Children Served Annually by MIECHV Home Visitation Programs



Source: Jessica Stewart, MIECHV Program Director

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First Things First partners with parents and communities to strengthen families and give all Arizona children the opportunity to arrive at kindergarten healthy and ready to succeed.

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