

Health Policy Brief

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Developmental Screening Among Children Ages 1–5 in California

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“Early identification of developmental delays in young children allows for timely interventions that can improve health outcomes.”

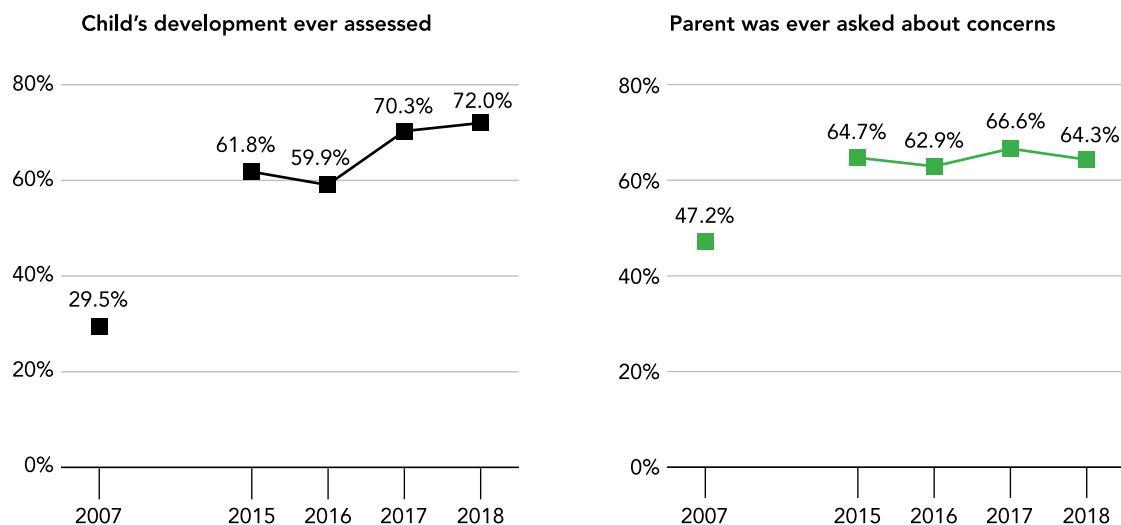
SUMMARY: This policy brief describes developmental screening among California children ages 1–5, using data from the California Health Interview Survey, 2007 and 2015–2018. Between 2007 and 2015, the proportion of parents reporting that their child had received developmental screening increased. Combined data from 2015 to 2018 show that the prevalence of developmental assessments varied by household income, insurance type, parental education level, and race and ethnicity. Children living in

households with incomes of 300% or more of the federal poverty level (FPL) or where parents had more than a high school education were more likely to have received a developmental assessment. Race and ethnicity were also factors: Latinx children had a lower prevalence of assessment than white, non-Latinx children. Health care and preschool settings are opportune places for children to be assessed, and educating the public and providers about the value of assessment can help boost California rates of developmental assessments.

Early identification of developmental delays in young children allows for timely interventions that can improve health outcomes.^{1, 2} Since 2001, the American Academy of Pediatrics (AAP) has recommended developmental screening of all children at 9, 18, and 30 months of age.³ Recommendations include asking parents about the child’s development and areas of concern during well-child visits, and using standardized screening tools or checklists of activity milestones and concerns.^{3, 4} Multiple efforts were undertaken in California to increase screening. In 2003, the California Statewide Screening Collaborative was formed to improve coordination among agencies involved in developmental screening and to promote the use of standardized tools and protocols among providers.⁵ In 2005, First 5 Orange County introduced a program called Help Me

Grow to increase developmental screening rates in the county and to provide referrals to local-level resources. Since then, the nonprofit First 5 Association has supported First 5 county commissions in expanding the Help Me Grow program throughout the state.⁶ Additionally, First 5 California, a state commission, supports universal developmental screenings in its policy agenda.⁷

This policy brief presents data from the California Health Interview Survey (CHIS). The survey asked parents of children 1–5 years of age a series of questions about screening: (1) whether the child’s doctor, other health care provider, or school officials had ever done an assessment or tests of the child’s development; (2) whether these professionals had ever asked if the parent had concerns about the child’s learning, development, or behavior; and

Exhibit 1**Doctor or Other Professional Ever Assessed the Child's Development and Asked Parent About Developmental Concerns, Children Ages 1–5, California, 2007 and 2015–2018**

Source: California Health Interview Survey

“In 2007, fewer than one-third of parents reported that their child had ever been screened; by 2015, the percentage had doubled.”

(3) whether the parent or guardian had ever filled out checklists of activities the child could do and of learning, developmental, or behavioral concerns. Trends in responses to these queries were analyzed for the year 2007 and for the period from 2015 to 2018. Single-year data from 2015–2018 were pooled to have sufficient sample sizes to describe demographic and regional characteristics.

Trends in Assessing Child Development and Concerns

In 2007, fewer than one-third (29.5%) of parents reported that their child had ever had a developmental assessment; by 2015, the percentage had doubled (61.8%) (Appendix, Exhibit A1). In 2007, fewer than half of parents said they had been asked about concerns, compared to about 65% of parents in 2015. The proportions remained constant through 2018 (Exhibit 1). In 2007, 36.4% of parents had ever completed a checklist of developmental activities, and 31.2% had ever completed a checklist of concerns; by 2015, these proportions had reached 64% for activities and 57.5% for concerns, with the distributions holding constant through 2018 (Appendix, Exhibit A2).

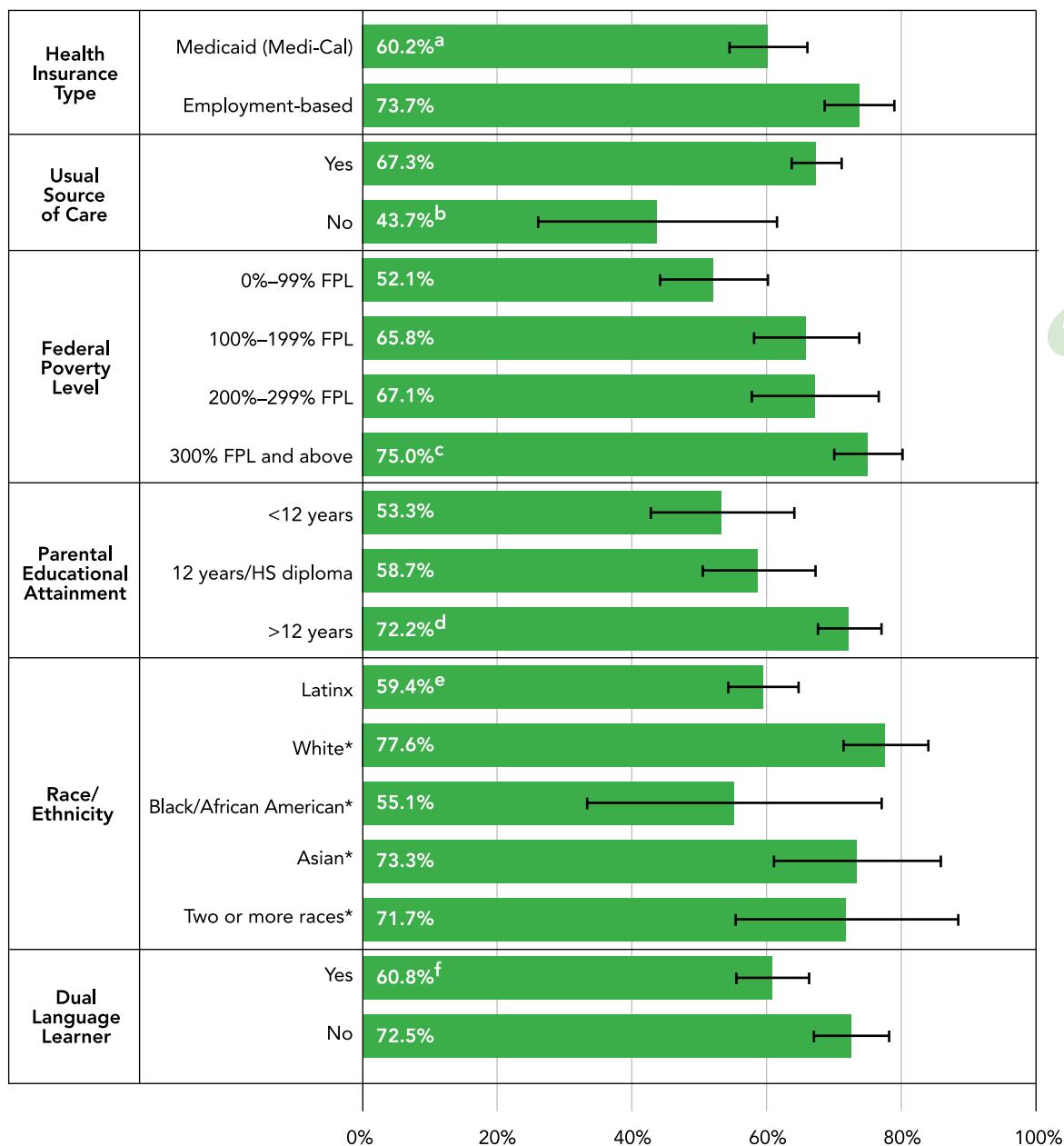
Developmental Assessments by Demographic Characteristics, 2015–2018

Prior research indicates that a medical home, household income, parental education level, and primary household language are factors associated with developmental screening.³ Pooled data from 2015–2018 examined distributions across demographic categories for whether children had been assessed, whether parental concerns had been assessed, and whether parents had completed assessment checklists. Analysis by language identified children who were dual language learners, defined as children in households where a language other than/in addition to English is spoken. Regional analysis examined distributions in the six regions used by the First 5 Association, a nonprofit organization representing the 58 First 5 county commissions.

For the pooled data years, 66% of parents reported that their child had ever had a developmental assessment (Appendix, Exhibit A3). Percentages of developmental assessment varied by health insurance type, ranging from 60.2% of children with Medi-Cal to nearly 74% of those with employer-based insurance.

Doctor or Other Professional Ever Assessed the Child's Development, Children Ages 1–5, California, 2015–2018, by Demographic Characteristics

Exhibit 2



Source: California Health Interview Survey

Notes: Significant differences ($p < 0.01$): a. Lower than employment-based insurance; b. Lower than children with a usual source of care; c. Higher than other FPL categories; d. Higher than 12 or fewer years of education; e. Lower than White, non-Latinx; f. Lower than non-dual language learners.

CHIS also asked parents whether their child had a usual place for receiving health care (“usual source of care”). Among those who said yes, 67.3% reported ever having an assessment, compared with almost 44% who said their child did not have a usual source of care (Exhibit 2).

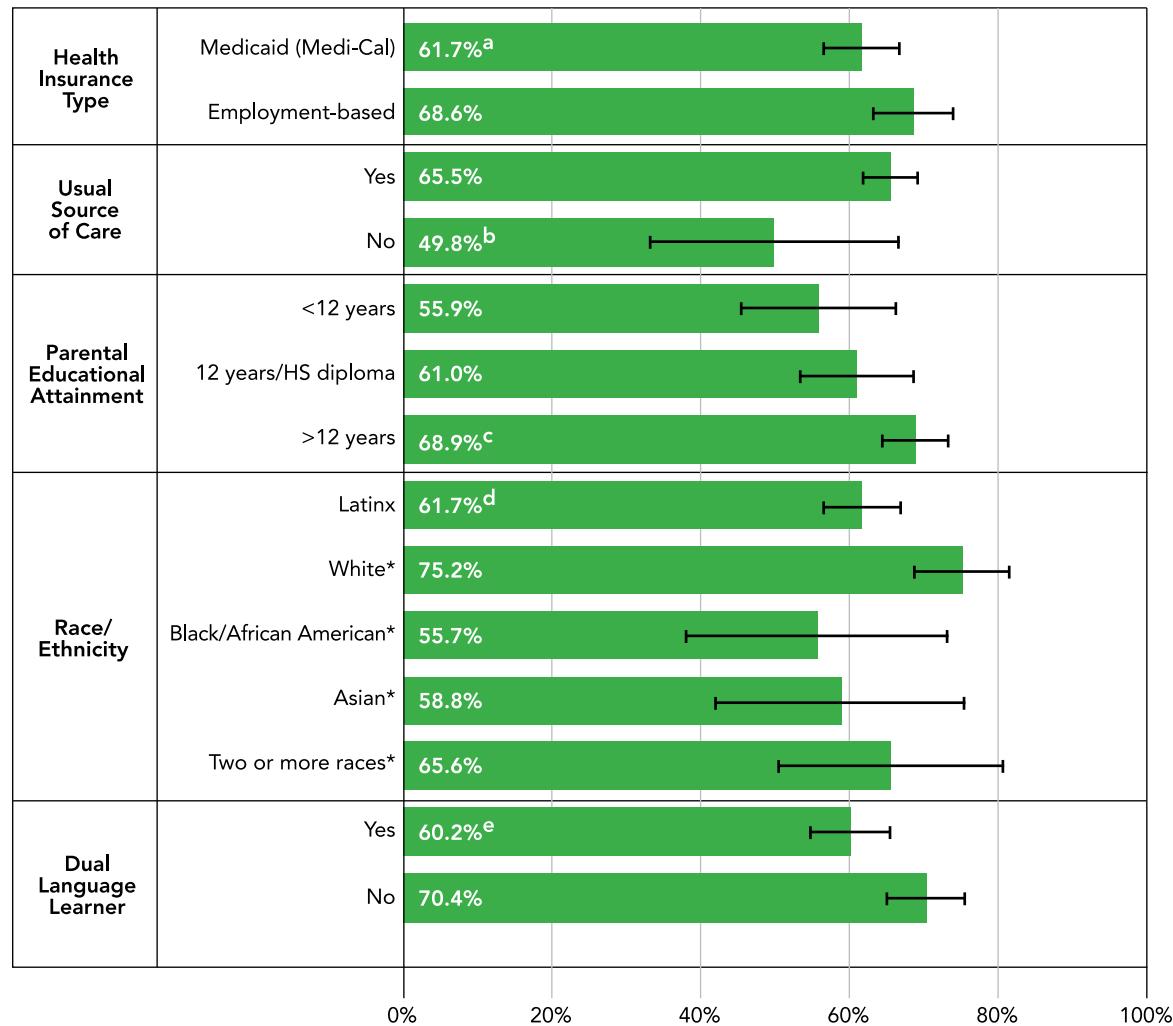
■ 95% confidence intervals

Statistically unstable estimates (coefficient of variation $\geq 30\%$) are not displayed.

*Non-Latinx

“Prevalence of developmental assessments was highest among children living in households with an income of 300% FPL or more.”

Household income, measured by the percentage of the federal poverty level (FPL) and by parental education level, showed gradations in the prevalence of a child's ever having received a developmental assessment. Prevalence of developmental assessments was highest among children living in households with an income of 300% FPL or more.

Exhibit 3**Doctor or Other Professional Ever Asked Parent About Developmental Concerns, Children Ages 1–5, California, 2015–2018, by Demographic Characteristics**

Source: California Health Interview Survey

Notes: Significant differences ($p < 0.01$): a. Lower than employment-based insurance; b. Lower than children with a usual source of care; c. Higher than 12 or fewer years of education; d. Lower than White, non-Latinx; e. Lower than non-dual language learners.

■ 95% confidence intervals

Statistically unstable estimates (coefficient of variation $\geq 30\%$) are not displayed.

*Non-Latinx

“Latinx children had a screening prevalence rate nearly 20 percentage points lower than that of white, non-Latinx children.”

Parental education categories showed a pattern that was similar to the income pattern: Compared to parents with 12 or fewer years of schooling, a more significant proportion of parents with more than 12 years of education reported that their child had been assessed (Exhibit 2).

Race and ethnicity were factors in reporting assessment for possible developmental delays. Latinx children — California’s largest ethnic group in the age range of interest — had a screening prevalence rate nearly 20 percentage points lower than that of white, non-Latinx

children (59.4% versus 77.6%). Regarding languages spoken in the home, dual language learners were less likely than English-only speakers to have been assessed (60.8% versus 72.5%) (Exhibit 2).

The overall prevalence rate for assessing parental concerns was 64.7% (Appendix, Exhibit A4). Demographic patterns for asking about parental concerns are similar to the patterns described for developmental assessment by health insurance type, usual source of care, parental education, race/ethnicity, and dual language learners (Exhibit 3). There were few

differences across demographic characteristics in the proportions of parents reporting that they had completed a checklist of activities or of developmental concerns (Appendix, Exhibits A5 and A6).

Developmental Assessments in the First 5 Regions

The First 5 Association, a nonprofit organization representing the 58 First 5 county commissions, groups counties into six regions (Appendix, Exhibit A7). The prevalence of parents reporting that their child's development had ever been assessed was higher in the Northwest region (80.3%) than in the state overall (66%) (Appendix, Exhibit A8). There were no statistically significant differences among regions. Likewise, the proportion of parents who reported that they had been asked about their concerns did not statistically differ across regions (Appendix, Exhibit A9).

Conclusions

Assessing the development of young children is an essential means of identifying possible delays and ensuring early interventions to improve health and well-being. Looking at the CHIS data presented in this policy brief, it is encouraging to see an increase between 2007 and 2015 in the proportion of parents who reported that their child had been assessed for possible developmental delays (29.5% versus 61.8%) and that they had been asked about concerns (47.2% versus 64.7%). However, because nearly one-third of parents reported that their child had not had either of these assessments, there is room for improvement.

Health care and preschool settings are opportune places for conducting assessments of children. Educating both the public and providers can help boost developmental assessment rates in California. The goal should be universal developmental surveillance and screening at recommended intervals,

as outlined in the American Academy of Pediatrics' Bright Futures guidelines (<https://brightfutures.aap.org/materials-and-tools/guidelines-and-pocket-guide/Pages/default.aspx>). In 2019, California took a step toward meeting that goal by enacting AB 1004, which requires doctors to screen children enrolled in Medi-Cal per these guidelines.⁸ Future research could focus on identifying barriers to assessment and learning from specific efforts that have been successful for increasing screening rates.

Data Sources and Methods

The data in this policy brief are from the 2007 and 2015–2018 California Health Interview Survey (CHIS). During these years, CHIS was implemented as a random-digit-dial survey of the California population living in households. CHIS is conducted in English, Spanish, Mandarin, Cantonese, Vietnamese, Korean, and Tagalog. Parents answer for children ages 1–11 years, but for this report we focused on data from CHIS respondents who were the parent or legal guardian of at least one child age 1–5 years. Results were weighted to the general population to adjust for sampling design and error. Multiple data years (2015–2018) were pooled to provide a sufficient sample size for analysis by demographic characteristics. Determination of the statistical stability of the data was based on analysis of the coefficient of variation (CV), using a criterion of 30%. Estimates for American Indian and Alaska Native and Native Hawaiian and Pacific Islander (non-Latinx) groups are not displayed in the tables due to large coefficients of variation and insufficient sample sizes. Differences between estimates were determined using z-tests (a z-test is a statistical test of differences between means or proportions, used when the standard deviation is known and the sample size is large).

CHIS reports higher developmental screening rates than those reported by the National Survey of Children's Health for California (NSCH) for 2017–2018 (70.3% versus 26%,⁹ respectively). There are differences in how the data sources measure developmental screening that might account for this difference: CHIS asks parents of children ages 1–5 years whether the child ever had a developmental assessment; NSCH asks parents of children ages 9–35 months about developmental screening in the past 12 months.

“Health care and preschool settings are opportune places for conducting assessments of children.”



The California Health Interview Survey covers a wide array of health-related topics, including health insurance coverage, health status and behaviors, and access to health care. It is based on interviews conducted continuously throughout the year with respondents from more than 20,000 California households. CHIS is a collaboration of the UCLA Center for Health Policy Research, the California Department of Public Health, the California Department of Health Care Services, and the Public Health Institute. For funders and other information on CHIS, visit chis.ucla.edu.

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The analyses, interpretations, conclusions, and views expressed in this policy brief are those of the authors and do not necessarily represent the UCLA Center for Health Policy Research, the Regents of the University of California, or collaborating organizations or funders.

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Endnotes

- 1 Center on the Developing Child. 2007. *The Science of Early Childhood Development* (InBrief). Retrieved from www.developingchild.harvard.edu.
- 2 Brown TT, Jernigan TL. 2012. Brain Development During the Preschool Years. *Neuropsychology Review* 22(4): 313–333. <https://doi.org/10.1007/s11065-012-9214-1>
- 3 Hirai A et al. 2018. Prevalence and Variation of Developmental Screening and Surveillance in Early Childhood. *JAMA Pediatrics* 172(9): 857–856.
- 4 Lidkin PH et al. 2020. Promoting Optimal Development: Identifying Infants and Young Children With Developmental Disorders Through Developmental Surveillance and Screening. *Pediatrics* 145(1).
- 5 Zero to Three. *California Statewide Screening Taskforce*. Policy Resource. Sept. 1, 2017. <https://www.zerotothree.org/resources/2007-california-statewide-screening-taskforce>
- 6 First 5 Center for Children's Policy. May 2020. *California's Early Identification and Intervention System and the Role of Help Me Grow*. Policy Brief. <https://first5center.org/assets/files/hmg-paper-v4-WEB.pdf>
- 7 First 5 California. (n.d.) *Organization and Policy*. <http://www.cfc.ca.gov/about/organization.html#policy>
- 8 Stavely Z. Oct. 2, 2019. Identifying Developmental Delays Is Target of New California Law. *EdSource: Highlighting Strategies for Student Success*. <https://edsource.org/2019/identifying-early-development-delays-target-of-new-california-law/618046#:~:text=Gavin%20Newsom,18%20months%20and%2030%20months>.
- 9 The Child & Adolescent Health Measurement Initiative. 2017–2018 National Survey of Children's Health (NSCH) data query. 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), and Maternal and Child Health Bureau (MCHB). Retrieved 01/19/2021 from www.childhealthdata.org.