Developmental Screening Disparities for Languages Other than English and Spanish

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Abstract

Background: Limited English proficiency (LEP) is a known barrier to preventive care. Children from families with LEP face socioeconomic circumstances associated with increased odds of developmental delays and decreased participation in early care and education programs. Little is known about developmental surveillance and screening for children from families who speak languages other than English and Spanish. We sought to compare developmental surveillance and screening at well-child visits (WCVs) by preferred parental language.

Methods: Using a retrospective cohort (n = 15,320) of children aged 8 to 40 months with ≥2 WCVs from January 1, 2006, to July 1, 2010, in a community health system, 450 children from 3 language groups (150 English, 150 Spanish, and 150 non-English, non-Spanish) were randomly selected. Chart review assessed 2 primary outcomes, developmental surveillance at 100% of WCVs and screened with a standardized developmental screening tool, and also determined whether children were referred for diagnostic developmental evaluation. Bivariate and multiple logistic regression analyses were conducted.

Results: Compared to the English-speaking group, the non-English, non-Spanish group had lower odds of receiving developmental surveillance at 100% of WCVs (odds ratio, 0.3; 95% confidence interval, 0.2, 0.5) and of being screened with a standardized developmental screening tool (odds ratio, 0.1; 95% confidence interval, 0.1, 0.2). There were no differences between the English- and Spanish-speaking groups. Though underpowered, no differences were found for referral.

Conclusions: Improved developmental surveillance and screening are needed for children from families who speak languages other than English and Spanish. Lack of statistically significant differences between English- and Spanish-speaking groups suggests that improved translation and interpretation resources may decrease disparities.

Keywords: developmental disabilities; health care disparities; limited English proficiency; screening; well child care

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What's New

Little is known about receipt of pediatric preventive care for children from families who speak languages other than English and Spanish. This study explores receipt of developmental surveillance and screening and demonstrates disparities for these children.

IMMIGRANT AND REFUGEE children represent a large, growing population in the United States. Approximately 20% of children in the United States live in an immigrant family.[1,2] Previous studies have found that immigrant and refugee populations have lower rates of immunization, difficulty accessing health care, decreased access to health insurance, and less preventive visit attendance.[2–6] While factors such as poverty and lower education levels contribute to these populations' disparities in health care delivery and access, limited English proficiency (LEP) is another important factor. Previous studies have shown that individuals with LEP have delayed time to care[7] and decreased utilization of heath care services[8] and are less likely to have health care coverage, identify a personal health care provider, or attend routine checkups.[9] Children from LEP families have greater odds of reporting fair/poor health status, being uninsured, and not having access to medical and dental care.[10,11]

The American Academy of Pediatrics (AAP) recommends that children receive developmental surveillance at all of their preventive visits before age 5 years.[12] The AAP defines developmental surveillance as "eliciting and attending to the parents' concerns about their child's development; documenting and maintaining a developmental history; making accurate observations of the child; identifying risk and protective factors; and maintaining an accurate record of documenting the process and findings."[12] The American Academy of Family Physicians has not made a formal recommendation about the frequency of surveillance and screening for developmental delays, but there is growing support for routine surveillance and the use of

standardized developmental screening tools in the family medicine literature.[13] The AAP notes the importance of promptly addressing any concerns about development and recommends that all children receive screening with a standardized developmental screening tool 3 times at ages 9 months, 18 months, and either 24 or 30 months.[12]

Immigrant, refugee, and LEP groups experience disparities related to child development and school readiness. Children of immigrant parents often face socioeconomic circumstances, such as poverty, language barriers, and lower levels of parental education, that place them at greater risk for developmental delays and poor school readiness.[14] One large study found that maternal immigrant status was associated with poor developmental attainment in preschool-age children.[15] Additionally, children with parents who have LEP have lower participation in early intervention programs and lower rates of developmental screening.[16,17] Despite these known challenges faced by immigrant children and the limited data regarding developmental screening for children from LEP families, it remains unclear if health care professionals are providing adequate developmental surveillance, screening, and referral for children from families with LEP.

This study sought to compare receipt of developmental surveillance and screening among children from English-speaking families, Spanish-speaking families, and families who speak languages other than English and Spanish.

PATIENTS AND METHODS

To compare developmental surveillance and screening for children from English-speaking families, Spanish-speaking families, and families who speak languages other than English and Spanish, we performed a retrospective cohort study at Denver Health, a large community health system in Denver, Colorado,[18] that serves a significant portion of Denver's refugee and immigrant populations. Using administrative data from January 1, 2006, to July 1, 2010, children with at least 2 well-child visits (WCVs) and who were aged between 8 and 40 months were identified. Data collected for each child included: demographics (eg, language preferred by the parent, gender, age at first WCV, insurance, and race/ethnicity) and number of WCVs. We divided this initial cohort into 3 language groups: English, Spanish, and non-English, non-Spanish. We determined each child's language group using parental preferred language. For power calculations, for an alpha of 0.05 for the primary outcomes of developmental surveillance and screening with a standardized developmental screening tool, we used simple random sampling for each language group to select 150 children from each of the 3 language groups. This random selection process resulted in a cohort of 450 children: 150 from English-speaking families, 150 from Spanish-speaking families, and 150 from families who spoke languages other than English and Spanish. Because of the small population children from families who spoke languages other than English and Spanish within our overall cohort, we combined all children from families who spoke languages other than English and Spanish within into a single language group to make analysis feasible.

For the 450 randomly selected children, chart review assessed the 2 primary outcomes of interest: 1) documented developmental surveillance at 100% of WCVs from ages 8 to 40 months and 2) screened with a standardized developmental screening tool. As a secondary outcome, chart review also determined whether each child was referred for a diagnostic developmental evaluation. For each child, we reviewed the electronic medical record for each WCV between 8 and 40 months. For the outcome of documented developmental surveillance at 100% of WCVs from age 8 to 40 months, we reviewed the history, examination, assessment, and plan for each of the child's WCVs between 8 and 40 months, as documented by the health care professional who saw the patient. Using the AAP's definition of developmental surveillance,[12] if there was any documented component of developmental surveillance for the visit, the patient was counted as having received developmental surveillance at that WCV. This process was repeated for each WCV for each of the 450 children. For the outcome of being screened with a standardized developmental screening tool, we assessed whether a standardized developmental screening tool had been filled out and scanned into the electronic medical record for each WCV for each patient. Any filled out and scanned standardized developmental screening tool (eg, Ages and Stages Questionnaire, Denver Developmental Screening Test II) was counted during the chart review, regardless of which tool was used. If children had at least one completed standardized developmental screening tool scanned into the electronic medical record between ages 8 and 40 months, they were counted as having been screened. To assess referrals, we reviewed the health professional's documented assessment and plan for each WCV to determine if the health professional had referred the patient for a diagnostic developmental evaluation. If the child was referred at any WCV from 8 to 40 months, the child was counted as having been referred for a diagnostic developmental evaluation.

Chi-square analyses and 1-way analysis of variance compared demographic and clinical characteristics among the 3 language groups (English, Spanish, and non-English, non-Spanish). Frequencies for each developmental outcome of interest for specific languages within the non-English, non-Spanish group (eg, Amharic, Arabic, Somali, Vietnamese) were also collected. For these language-specific results, languages spoken by less than 14 children and languages listed as "other" in the administrative data without further specification were categorized as "other" within the non-English, non-Spanish group. Multiple logistic regression analyses for the primary and secondary outcomes of interest were performed, adjusting for gender, age at first WCV, insurance, and number of WCVs. We excluded race/ethnicity because it was too strongly associated with language, our primary predictor, to adjust for both variables in the same model. All statistical analyses