Health Care Utilization among Children Enrolled in Medicaid and CHIP via Express Lane Eligibility

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Objective. To assess health care utilization among children enrolled in Medicaid and CHIP via Express Lane Eligibility (ELE).

Data Sources/Study Setting. Enrollment, claims, and encounter data for children enrolled in Medicaid or CHIP in Alabama, Iowa, Louisiana, and New Jersey during 2009–2012.

Study Design. We compared health care utilization among children enrolled via ELE and nondisabled children who enrolled through standard pathways in each state. We used a two-step estimation approach, examining the likelihood of utilization and then the volume and cost of services among users. Regression adjustment corrected for demographic differences.

Principal Findings. Most ELE and comparison group children used services within a year of enrollment and accessed a variety of services, including outpatient care, prescription drugs, and dental and vision care. ELE enrollees were somewhat less likely to use each service type, and those who used services often did so less intensively compared to other enrollees in their state.

Conclusions. Health care use patterns suggest that ELE enrollees are aware of their coverage; enrollees accessed and repeatedly used services covered by public health insurance. However, states considering this policy may expect that remaining eligible but uninsured children may be less expensive to cover than existing beneficiaries.

Key Words. Medicaid, health care utilization, express lane eligibility, enrollment simplification

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Express Lane Eligibility (ELE), an enrollment simplification originally permitted by the Children's Health Insurance Program Reauthorization Act (CHIPRA) in 2009, enables states' Medicaid and/or Children's Health Insurance Program (CHIP) to use another agency's eligibility findings to qualify children for public health insurance coverage, even if the programs use different methods to assess income or otherwise determine eligibility

(Hoag et al. 2013). ELE thus gives states another way to identify and enroll children who are eligible for Medicaid or CHIP, but who remain uninsured—an estimated 4 million children across the United States in 2011 (Kenney, Anderson, and Lynch 2013)—and to retain children in coverage for which they are eligible, an equally challenging issue (Sommers 2007). Despite ELE’s potential to simplify enrollment or renewal, only 13 states have implemented ELE in either Medicaid or CHIP as of August 2013 (Hoag et al. 2013). However, that may change, as ELE is a promising strategy for facilitating Medicaid expansion (Hensley-Quinn, Henderson, and Mooney 2012; Dorn et al. 2013; Rosenbaum, Gonzales, and Trisi 2013).

A key unknown about ELE is how children who are enrolled through ELE processes will use health care. Lack of enrollment in Medicaid or CHIP among eligible children may reflect lower health care needs or simply a limited awareness about enrollment methods and/or the potential benefits of insurance for healthy children (Kenney, Haley, and Tebay 2004). Because some states have automated ELE processes, requiring few affirmative enrollment steps from families, a related issue is whether families whose children enrolled through this expedited approach appear to understand the scope of their benefits and how to access care. These questions of expected service utilization and costs are particularly salient for states that enroll Medicaid and CHIP children in managed care programs paid through capitated rates.

To assess health care utilization among children enrolled via ELE, we examined enrollment, claims, and encounter data in four states—Alabama, Iowa, Louisiana, and New Jersey—that use ELE to process initial enrollments into Medicaid or CHIP. We aimed to address two broad research questions: (1) How does the volume and type of services used among ELE children compare with that of nondisabled children who enroll through standard pathways? and (2) How does the timing of service use compare across enrollees entering through ELE versus through standard pathways?

BACKGROUND ON ELE PROCESSES IN STUDY STATES

Across the four states, our study separately analyzed six distinct ELE processes to facilitate enrollments (Table 1). In Alabama, ELE has been used

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Table 1: Features of Studied ELE Enrollment Processes and Sample Sizes

State and Program	Process Name	Process Description	Partner Agency	Implementation Date	Date Through Which Data from State are Considered Complete	Enrollees with 6 Months of Coverage	
						ELE Sample Size	Non-ELE Comparison Group Sample Size
Alabama (Medicaid)	Simplified procedure	SNAP and TANF income findings used to establish income after consumer declarations at application and renewal	SNAP and TANF	April 2010	September 2012	61,294	164,792
Iowa (Medicaid)	Simplified application	Data match to identify potentially eligible children; shortened application form mailed out. SNAP findings establish income eligibility	SNAP	June 2010	November 2012	1,789	104,860
Louisiana (Medicaid)	Automatic processing	Automated enrollment of children based on SNAP findings. Data matching occurs unless families explicitly opt out	SNAP	February 2010	September 2012	14,813	49,974
Louisiana (Medicaid)	Automatic processing	Automated enrollment of children based on SNAP findings. Data matching only occurs if families opt in by checking a box on the SNAP application	SNAP	January 2011	September 2012	5,040	51,390
New Jersey (Medicaid/CHIP)	Simplified application	Data match to identify potentially eligible children; shortened application form mailed out. State income tax returns establish income eligibility	State tax agency	May 2009	August 2012	4,171	385,787
New Jersey (Medicaid/CHIP)	Simplified application	Data match with school lunch program to identify potentially eligible children; shortened application form mailed out. School lunch findings establish income eligibility	NSLP	September 2010	August 2012	1,950	197,993

Note. CHIP = Children's Health Insurance Program; NSLP = National School Lunch Program; SNAP = Supplemental Nutrition Assistance Program; TANF = Temporary Assistance for Needy Families.

for enrollments since April 2010, drawing on eligibility information from the Supplemental Nutrition Assistance Program (SNAP) and Temporary Assistance for Needy Families (TANF). For most families, the ELE process as implemented in 2010 did not appear different from the standard process: families still initiated an application for coverage, and most families were also required to submit the same forms and information as they would without the ELE program in place. Eligibility workers manually check SNAP and TANF databases to establish income after it has been declared on Medicaid application forms, but when they are able to verify income declarations in SNAP or TANF, further checking of other databases is not done, which saves staff time.

Iowa Medicaid's ELE process was introduced in June 2010. Using an automated data-matching procedure, families enrolling in SNAP are screened for Medicaid eligibility. A shortened, six-page application form—with no questions about income and resources—is automatically mailed to families of children on SNAP who are not publicly insured. Typically, parents are required only to sign and return the form they receive, signifying that they would like to have their child enrolled in Medicaid.

In Louisiana, officials conducted a one-time data match in December 2009 to identify families receiving SNAP but not Medicaid. Identified families received a letter informing them of their children's eligibility and explaining how they could opt out of enrollment (because ELE requires families' consent to enrollment). Children identified from the initial data match who did not "opt out" were automatically enrolled in Medicaid in February 2010. In January 2011, the ELE process in Louisiana changed. The SNAP application form was updated to include a check box that required families to "opt in" before the state could match SNAP and Medicaid data and enroll a child into coverage. Among children who "opt in," those found eligible for and not already in Medicaid are automatically enrolled.

New Jersey has ELE processes in place with both the state tax agency and National School Lunch Program (NSLP) to facilitate enrollment in Medicaid and CHIP, both administered by the Department of Human Services (DHS). Since May 2009, the Division of Taxation has provided contact information to DHS for likely eligible families who file state taxes, and DHS uses this information to send targeted families an abbreviated public health insurance application. If the form is returned, the Division of Taxation provides DHS information obtained from the tax return, which is used to process the ELE application. The partnership with NSLP began on a pilot basis in September 2010 and expanded statewide in October 2011. School districts provide DHS with a list of uninsured children, with an indicator for those

children who receive free or reduced-price school lunches. Families of children with such an indicator are sent ELE application packets. Families who return the ELE application form are temporarily enrolled in Medicaid or CHIP, respectively. After enrollment, the state checks income against records from the Division of Taxation or the state wages database.

METHODS

Data Collection

We obtained individual-level enrollment, claims, and/or encounter data directly from each state for all children ages 0–18 years enrolled in Medicaid (or CHIP, in New Jersey only) at any point during the period from the first month of ELE implementation through December 2012. States extracted data between January and March 2013 and recommended allowing between 3 and 6 months for complete claims reporting. Table 1 shows the last month through which we consider utilization data complete, based on when the states extracted data and their recommendations about the claims lag we should allow.

Sample Definition

We compare utilization during the first year of coverage for ELE enrollees and a comparison group comprised of non-ELE child enrollees. Non-ELE enrollees include children who qualify for Medicaid or CHIP primarily on the basis of income. We exclude children whose basis of eligibility is inclusion in any of the following groups: deemed infants, blind/disabled, supplemental security income, institutionalized, foster care, qualified as medically needy, or received partial benefits because of dual eligibility for Medicare or immigrant status. Children in these groups are not expected to be comparable to ELE enrollees in characteristics or utilization patterns. Many are enrolled specifically due to high medical need, and Medicaid covers only limited services for others.

The analytic sample includes (1) enrollees who have no prior Medicaid/CHIP coverage or who have a gap in Medicaid/CHIP coverage of at least 2 months immediately prior to their enrollment during the study period, and (2) were continuously enrolled for a minimum of 6 months during which we had complete utilization data (Table 1). For example, in Alabama, ELE implementation began in April 2010, and we had complete claims data through September 2012. Therefore, the Alabama study sample includes all

ELE and non-ELE children meeting our other inclusion criteria who began an enrollment spell between April 2010 and March 2012.

Our ELE sample size for Alabama was large because staff attempt to use ELE processes for most applications. Roughly 2,500 children per month were processed using ELE in Alabama during the period we studied. Mailings-based processes in Iowa and New Jersey reached a smaller set of children, averaging about 100 ELE enrollments per month. The “opt-out” ELE process in Louisiana included 14,000 enrollees, reflecting the large existing SNAP caseload of children who were not enrolled in Medicaid. Following that initial stock of cases, ongoing ELE enrollments via the “opt-in” process have been more modest, averaging about 360 per month. We did not pool the samples across states; analyses were performed separately for each of the six ELE processes studied.

We focus on enrollees without prior public coverage or with inconsistent public coverage because this analysis conceptualizes utilization as a characteristic of children enrolling in public insurance programs that reflects their underlying need for care and their propensity to engage with the health care system. Service patterns for longer standing enrollees reflect both their need for care and the influence of the Medicaid program itself. Where sample sizes allowed, we also conducted analyses for enrollees with at least 12 months of continuous enrollment and found that the results were consistent with the findings we present below.

Utilization Measures

We created measures of overall service use and cost, as well as measures for specific service types. We grouped services into two categories: “core” services, including inpatient, outpatient/physician, and emergency room (ER) visits; and “wraparound” services, including prescription drugs and, for those older than age 1, vision care, dental care, and behavioral health and substance abuse (BHSA) services. These services are equally important for child well-being and may be covered more generously through Medicaid than through private insurance options. If ELE enrollees had previously failed to enroll in Medicaid because they have access to other private health insurance, we might observe few claims for core services, but relatively high use of prescription, vision, dental, and BHSA services among ELE children, acting as a “wrap-around” to other coverage. For each service, we constructed measures of any use, the number of events or visits, cost of care, and exclusive use of that service type without other claims.

We also examined the length of time until service receipt to understand whether there is evidence that ELE enrollees take longer to access services, potentially because of lack of awareness of coverage or how to access care. These calculations exclude non-ELE enrollees who have an inpatient or ER claim within the first month of enrollment because these enrollees may have been enrolled in Medicaid with retroactive coverage following a serious acute event. This analysis aimed to understand how beneficiaries accessed services when they enrolled in Medicaid under normal circumstances, rather than because of acute and serious medical need. Including children who likely enrolled in Medicaid after seeking hospital services for emergent conditions would bias the results toward finding a larger gap in the time to first service receipt. Across the four states in this study, between 6 and 19 percent of comparison group members were excluded from this particular measure because of receipt of ER or inpatient services within the first month of enrollment.

Services were defined using procedure codes, diagnosis codes, revenue codes, place of service, and provider type or category of service. Where possible, we used publicly available measures with consensus definitions to inform our measures. For example, the wellness visit and dental visit codes are those used in the CHIPRA core quality measure technical specifications (CMS 2012). The American Academy of Pediatrics' Bright Futures coding guidelines provided some of the codes to identify vision services. Previous work on the Medicaid Analytic eXtract informed our list of diagnosis and procedure codes used to identify beneficiaries using BHSA services. Although we began with these core definitions, data structure and variables differed across states, and some states made extensive use of state-specific codes. Therefore, we customized the definitions for each state to account for those differences.

Statistical Analysis

Demographic differences between ELE and non-ELE children are likely to substantially influence utilization patterns. For example, non-ELE children are more likely to be infants (Table 2), a group that uses inpatient, emergency room, and physician services more intensively than other children, while using fewer dental, vision, and BHSA services. Differences can be stark; in New Jersey, just 2 percent of ELE enrollees used inpatient services, compared to 19 percent of non-ELE children (Appendix SA2). If differences between ELE and non-ELE children disappear after controlling for known demographic characteristics, we can conclude that ELE children likely have similar

Table 2: Demographic Characteristics of Study Sample

	Alabama			Iowa Medicaid			Louisiana Opt-Out			Louisiana Opt-In			New Jersey Tax			New Jersey NSLP		
	Non-ELE	ELE		Non-ELE	ELE		Non-ELE	ELE		Non-ELE	ELE		Non-ELE	ELE		Non-ELE	ELE	
Total N	164,792	61,294		104,860	1,789		49,974	14,813		51,390	5,040		385,787	4,171		197,993	1,950	
Demographics (%)																		
Age (years)																		
Less than 1	35.3	5.1*		370	3.5*		8.6	0.9*		7.5	4.7*		35.3	3.6*		36.3	1.0*	
1-2	12.8	16.4*		10.5	9.2*		13.7	6.2*		13.5	9.1*		9.7	9.7*		9.5	3.1*	
3-5	14.9	21.3*		14.4	18.1*		18.3	13.8*		19.2	16.5*		12.3	14.2*		12.4	10.0*	
6-12	22.7	36.9*		24.3	42.9*		33.5	40.9*		34.5	40.0*		24.7	37.1*		24.4	46.7*	
13-16	10.8	16.1*		11.2	21.1*		17.0	25.6*		16.3	21.1*		13.0	25.3*		12.6	29.1*	
17-18	3.5	4.3*		2.6	5.3*		8.9	12.6*		9.1	8.6*		5.0	10.1*		4.8	10.1*	
Gender																		
Female	49.7	49.9		49.1	48.5		51.5	48.4*		51.7	48.4*		49.9	48.8		49.9	49.1	
Male	50.3	50.2		50.9	51.5		48.5	51.6*		48.3	51.6*		50.1	51.2		50.1	50.9	
Race/ethnicity				n/a	n/a													
Non-Hispanic white	47.5	37.8*		-	-		-	-		-	-		42.4	23.0*		42.3	16.5*	
Non-Hispanic black	39.6	55.7*		-	-		-	-		-	-		23.8	22.7*		23.8	12.4*	
Hispanic	9.4	4.1*		-	-		-	-		-	-		22.3	19.4*		22.3	22.9*	
Other known	3.6	2.5*		-	-		2.8	1.0*		3.0	1.3*		11.6	34.9*		11.6	48.3*	
Not declared or unknown	-	-		-	-		4.2	0.1*		4.2	0.2*		-	-		-	-	
White	-	-		-	-		47.0	43.4*		46.1	51.4*		-	-		-	-	
Black or African American	-	-		-	-		38.8	52.6*		38.9	46.2*		-	-		-	-	
Hispanic American	-	-		-	-		7.3	3.0*		7.8	0.9*		-	-		-	-	
Urban/rural classification							n/a	n/a		n/a	n/a		n/a	n/a		n/a	n/a	
Urban	68.3	74.3*		55.6	60.3*		75.4	78.5*		75.7	72.8*		-	-		-	-	
Suburban/small city	24.5	17.6*		27.1	24.4*		18.4	15.7*		18.5	20.3*		-	-		-	-	
Rural	7.2	8.2*		17.3	15.4*		6.2	5.8*		5.8	7.0*		-	-		-	-	
Household income (% FPL)							n/a	n/a		n/a	n/a		n/a	n/a		n/a	n/a	
0-28	n/a	n/a		57.9	43.3*		-	-		-	-		-	-		-	-	
29-62	-	-		10.5	22.1*		-	-		-	-		-	-		-	-	
63-100	-	-		15.5	24.8*		-	-		-	-		-	-		-	-	
101-133	-	-		12.7	8.5*		-	-		-	-		-	-		-	-	
134% or more	-	-		3.4	1.4*		-	-		-	-		-	-		-	-	

Continued

Table 2. Continued

	Alabama		Iowa Medicaid		Louisiana Opt-Out		Louisiana Opt-In		New Jersey Tax		New Jersey NSLP	
	Non-ELE	ELE	Non-ELE	ELE	Non-ELE	ELE	Non-ELE	ELE	Non-ELE	ELE	Non-ELE	ELE
Household income (\$)												
\$0	n/a	n/a	n/a	n/a	32.0	74.5*	35.3	90.6*	n/a	n/a	n/a	n/a
Up to 1,000	—	—	—	—	22.6	9.9*	22.7	4.0*	—	—	—	—
1,000–1,999	—	—	—	—	23.8	10.0*	21.9	3.8*	—	—	—	—
2,000 or more	—	—	—	—	21.6	5.7*	20.2	1.5*	—	—	—	—
Program type	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	—	—	—	—
Medicaid (<100% FPL)	—	—	—	—	—	—	—	—	71.8	49.3*	72.8	17.0*
MCHIP (100–133/185% FPL)	—	—	—	—	—	—	—	—	7.2	12.4*	6.7	67.5*
SCHIP (up to 350% FPL)	—	—	—	—	—	—	—	—	21.0	38.3*	20.2	15.5*
Household size			n/a	n/a	21.7	12.3*	25.9	27.3*	n/a	n/a	n/a	n/a
0†	—	—	—	—	28.0	68.2*	26.5	62.7*	—	—	—	—
1	13.8	10.1*	—	—	25.7	9.3*	24.2	4.8*	—	—	—	—
2	36.3	28.3*	—	—	21.1	9.1*	20.1	4.6*	—	—	—	—
3–4	41.5	49.2*	—	—	3.5	1.1*	3.4	0.7*	—	—	—	—
5 or larger	8.4	12.4*	—	—	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Language			n/a	n/a	—	—	—	—	—	—	—	—
English	74.2	78.9*	—	—	—	—	—	—	—	—	—	—
Spanish	5.2	1.9*	—	—	—	—	—	—	—	—	—	—
Unknown/other	20.6	19.2*	—	—	—	—	—	—	—	—	—	—
Plan enrollment	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	—	—	—	—
Plan 1	—	—	—	—	—	—	—	—	30.0	26.0*	30.3	22.0*
Plan 2	—	—	—	—	—	—	—	—	43.0	45.9*	44.1*	44.1*
Plan 3	—	—	—	—	—	—	—	—	12.4	7.7*	12.8	15.3*
Other plan	—	—	—	—	—	—	—	—	12.1	19.1*	10.9	17.6*
Fee-for-service only	—	—	—	—	—	—	—	—	2.6	1.4*	2.6	1.0*
Private insurance	n/a	n/a	n/a	n/a	12.9	21.5*	14.0	26.9*	n/a	n/a	n/a	n/a

Continued

Table 2. Continued

	Alabama		Iowa Medicaid		Louisiana Opt-Out		Louisiana Opt-In		New Jersey Tax		New Jersey NSLP	
	Non-ELE	ELE	Non-ELE	ELE	Non-ELE	ELE	Non-ELE	ELE	Non-ELE	ELE	Non-ELE	ELE
Sample size for each type of service (N)												
Core services												
ER services	53,159	12,520	38,146	403	15,972	2,751	15,773	1,067	147,573	1,095	76,310	437
Inpatient admissions	12,096	1,238	13,869	42	3,328	225	2,735	107	74,645	86	37,978	39
Physician/outpatient services	109,148	27,069	92,899	1,367	42,642	8,616	42,959	3,024	349,320	3,341	179,867	1,624
Wraparound services												
Prescription fills	94,074	22,169	70,347	1,003	35,266	5,778	35,296	2,295	280,121	2,462	143,478	1,124
BHSA services	11,467	5,543	11,653	265	5,454	799	6,031	359	37,118	439	20,317	244
Dental services	29,483	14,292	33,944	712	21,933	3,817	23,281	1,500	113,792	1,589	58,897	941
Vision services	18,969	8,496	17,480	391	23,194	4,440	21,203	1,183	85,595	1,175	44,935	750

Note. ELE = Express Lane Eligibility; NSLP = National School Lunch Program; MCHIP = Medicaid-expansion children's health insurance program; SCHIP = separate children's health insurance program; n/a = not available.
†Louisiana coded some child-only households as a size of 0 in administrative records provided for this study. We included a regression control for this group separately than children coded as having a household size of 1.
*Characteristic is distributed differently among ELE enrollees, as compared to non-ELE enrollees, $p < .05$.

service needs and are not in need of more intensive outreach to understand benefits.

To compute regression-adjusted utilization rates, we take a two-step estimation approach (following Duan et al. 1983), first assessing the probability of any service use and then the volume and cost of service use among those who use some services. We chose this approach to shed further light on whether ELE children have different service needs and/or might need more intensive outreach to access services. If ELE children were less likely to use any services but used equal volumes of care once they began accessing services, we might be concerned that lower utilization rates were driven by an incomplete understanding of access to benefits.

The regressions follow a general model, with the utilization outcome for person p in enrollment segment s as a function of the enrollment pathway (a dummy variable to indicate ELE), a vector (DEMO) of available demographic characteristics, and a vector of fixed effects for the initial enrollment month (MONTH). The general regression model is as follows:

$$\text{Utilization Outcome}_{p,s} = \beta_0 + \beta_1 \text{ELE} + \text{DEMO}_\alpha + \text{MONTH}_\gamma + \varepsilon_p$$

Coefficient β_1 indicates whether an outcome differed for enrollees via ELE, relative to those enrolled through a standard, non-ELE pathway, after controlling for demographic characteristics and enrollment month.

We used logistic models for binary outcomes (any utilization), Poisson models for counts of services (for example, number of physician/outpatient visits), and generalized estimating equations with a gamma distribution and log-link for cost outcomes (for example, total predicted fee-for-service costs). All models account for clustering of standard errors at the person level, as some individuals (<5 percent) contribute multiple enrollment segments to the analysis. Models used all demographic control variables that were available in each state in the domains that we identified as likely to affect health care utilization: age, gender, race/ethnicity, geographic location, household income, household size, spoken language, known enrollment in private insurance (only available in Louisiana), and managed care plan enrollment (relevant only in New Jersey). Control variable specification varied across states, reflecting each state's administrative systems. For example, as shown in Table 2, we obtained household income as a percent of the federal poverty level (FPL) in Iowa and as a dollar value in Louisiana. In New Jersey, program enrollment serves as a proxy for household income; households with incomes up to 100 percent FPL are eligible for Medicaid; infants with incomes up to 185 percent FPL and children with incomes up to 133 percent FPL are eligible for as part

of the Medicaid expansion CHIP group (M-CHIP); and other infants and children with incomes up to 350 percent FPL are eligible as part of the separate CHIP group (S-CHIP; all three eligibility groups are known as NJ FamilyCare).

Our analysis focused on predicted values, emphasizing the difference in utilization patterns for ELE children, if they had the same demographic profile as non-ELE comparison group children. To produce non-ELE estimates, we calculated the average predicted outcome (probability of use, number of visits, or costs) across non-ELE observations. To produce ELE estimates, we added the estimated regression coefficient for ELE to the estimated linear predictor for each non-ELE observation, transformed the result, and computed the average across non-ELE observations. We report significant results at the $p < .05$ level. *SAS* software, version 9.3 (SAS Institute, Inc., Cary, NC, USA) was used to conduct the analyses.

FINDINGS

Characteristics of ELE and Non-ELE Enrollees

Some demographic differences exist between ELE and non-ELE enrollees (Table 2). Most notably, ELE enrollees in each state are much more likely to be infants. For example, in New Jersey just over one-third of non-ELE enrollees are under the age of 1, while fewer than 4 percent of ELE enrollees are infants. Other differences by income, geography, and race/ethnicity, though statistically significant, were not consistent across all states. For example, in Iowa a smaller proportion of ELE enrollees (43 percent) fell into the lowest income group (0–28 percent FPL), as compared to non-ELE children (58 percent). However, in Louisiana, most ELE children (74 percent for opt-out and 91 percent for opt-in) came from families with \$0 reported income, while only about a third of non-ELE children came from families without income. These differences underscore the importance of adjusting for demographic characteristics when interpreting utilization patterns.

Overall Service Use and Timing of Service Receipt

More than half of ELE enrollees in each state accessed services in their first year of enrollment, ranging from 65 percent of ELE enrollees in Alabama to 94 percent of ELE enrollees in New Jersey's NSLP ELE process. However, in five of six ELE processes examined—Alabama, Iowa, Louisiana opt-in and

Table 3: Predicted Timing of Service Receipt

	<i>Alabama</i>		<i>Iowa Medicaid</i>		<i>Louisiana Opt-Out</i>		<i>Louisiana Opt-In</i>		<i>New Jersey Tax</i>		<i>New Jersey NSLP</i>	
	<i>Non- ELE</i>	<i>ELE</i>	<i>Non- ELE</i>	<i>ELE</i>	<i>Non- ELE</i>	<i>ELE</i>	<i>Non- ELE</i>	<i>ELE</i>	<i>Non- ELE</i>	<i>ELE</i>	<i>Non- ELE</i>	<i>ELE</i>
Service receipt within:												
2 months (%)	57	54*	67	58*	66	48*	67	46*	55	46*	56	63*
6 months (%)	63	60*	86	82*	82	73*	82	66*	84	78*	84	85
12 months (%)	68	65*	93	90*	88	83*	88	75*	94	90*	94	94

Note. Regression-adjusted estimates. NSLP = National School Lunch Program.

*Difference between ELE and non-ELE children is statistically significant ($p < .05$).

opt-out, and New Jersey tax-based ELE—ELE enrollees were less likely to do so by small but significant margins when compared to non-ELE enrollees (Table 3).

For example, in Louisiana, ELE enrollees were less likely than non-ELE enrollees to use services whether they enrolled during the opt-out period or after Louisiana changed to an opt-in enrollment approach. Eighty-eight percent of non-ELE enrollees received some services during their first year of enrollment. However, only 83 percent of opt-out ELE enrollees and 75 percent of opt-in ELE enrollees used services. The gap in predicted service utilization between ELE and non-ELE enrollees during the first year was much smaller in Alabama, Iowa, and New Jersey tax-based ELE—just two to four percentage points.

For ELE enrollees via four of these processes—Iowa, Louisiana opt-in and opt-out, and New Jersey tax-based ELE—the gap between ELE and non-ELE enrollees in accessing services within the first 2 months of enrollment was much larger than the gap after 1 year of enrollment, suggesting that ELE enrollees were somewhat delayed in accessing services. For example, in Iowa, 58 percent of ELE enrollees had accessed services within 2 months, compared to 67 percent of non-ELE enrollees (Table 3). Though the difference for ELE and non-ELE enrollees in Alabama was significant at the 2-month mark, the gap between these groups is consistent and small (three percentage points) regardless of the time point observed.

New Jersey’s ELE partnership with NSLP was a notable exception to these trends. NSLP-ELE enrollees were equally likely to use any services within the first year of enrollment—and seven percentage points more likely to access services within 2 months of enrollment—relative to non-ELE enrollees.

Use of Core Services—Inpatient, Emergency Room, Outpatient/Physician

For all six ELE processes examined, ELE enrollees were significantly less likely to use some core services—inpatient, emergency room, and outpatient/physician care—when compared with non-ELE enrollees (Table 4). For example, in Louisiana, about one-third of non-ELE enrollees used emergency room services, compared to just 20 percent (opt-in ELE) or 24 percent (opt-out ELE) of ELE enrollees.

Among those who did use services, inpatient utilization rates were similar in all states across ELE and non-ELE enrollees, after adjusting for demographic differences. Emergency room utilization rates were about 10 percent lower for ELE enrollees in Louisiana relative to non-ELE enrollees, but comparable across the two groups in other states. Less than 3 percent of beneficiaries exclusively used emergency room services and no significant differences were found for ELE and non-ELE enrollees (data not shown). The largest difference in service use was for outpatient and physician services. ELE enrollees who used services averaged 10–44 percent fewer outpatient and physician visits when compared to non-ELE enrollees.

Use of “Wraparound” Services—Pharmacy, BHSA, Dental, Vision

For five of the six ELE processes examined, ELE enrollees were significantly less likely to use several types of wraparound services (Table 4). For example, in Louisiana, about 70 percent of non-ELE enrollees filled prescriptions and half used vision or dental services. However, only about 50 percent of ELE enrollees filled prescriptions, with just over one-third using vision or dental services. Use of BHSA services was much less common, but, again, ELE enrollees were about half as likely to use any of these services relative to non-ELE enrollees in Louisiana. Margins were much smaller in Alabama, Iowa, and New Jersey. For example, among New Jersey tax-ELE enrollees, 68 percent filled prescriptions, compared to 73 percent of non-ELE enrollees. New Jersey NSLP-ELE enrollees were an important exception to this trend—they were equally likely to fill prescriptions and use vision and dental services.

Among those who filled prescriptions or accessed BHSA services, ELE enrollees tended to do so less intensively. For example, in Iowa Medicaid, ELE enrollees filled an average of 9.3 prescriptions, whereas non-ELE enrollees on average filled 10.4 prescriptions. In Louisiana, for both opt-out and opt-in processes, ELE enrollees averaged fewer days of BHSA service

Table 4: Predicted Use of Services within Twelve Months

	Alabama		Iowa Medicaid		Louisiana Opt-Out		Louisiana Opt-In		New Jersey Tax		New Jersey NSLP	
	Non-		Non-		Non-		Non-		Non-		Non-	
	ELE	ELE	ELE	ELE	ELE	ELE	ELE	ELE	ELE	ELE	ELE	ELE
<i>Predicted probability of using services (%)</i>												
Core services	32	32	36	30*	32	24*	31	20*	38	36*	39	35*
ER services	7	5*	13	8*	7	2*	5	2*	19	11*	19	15*
Inpatient admissions	66	64*	89	86*	86	77*	84	68*	91	87*	91	91
Physician/outpatient services												
Wraparound services												
Prescription fills	57	54*	67	64*	71	54*	69	49*	73	68*	72	72
BHSA services	11	10	18	14*	12	6*	13	6*	15	13*	16	14*
Dental services	28	26*	51	42*	48	36*	49	36*	46	40*	47	48
Vision services	18	16*	26	22*	51	38*	45	33*	34	29*	36	34
Exclusive use of wraparound services	3	3	7	8*	5	9*	6	9*	4	5*	4	4
<i>Predicted average number of visits among those with service use</i>												
Core services	2.1	2.1*	2.0	1.8	1.7	1.5*	1.7	1.6*	2.0	1.9	2.0	2.0
ER services	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.2	1.2	1.3	1.2	1.0
Inpatient admissions	10.5	9.5*	9.2	7.4*	8.7	4.9*	8.1	5.0*	9.7	7.8*	9.8	8.3*
Physician/outpatient services												
Wraparound services												
Prescription fills	7.7	7.7	10.4	9.3*	9.7	6.7*	9.3	6.9*	5.1	4.3*	5.1	4.6*
BHSA service days	5.9	4.8*	15.4	13.3	7.9	4.9*	8.7	5.9*	10.5	7.3*	10.8	7.5
Dental services	2.4	2.4	2.2	2.1	2.4	2.4	2.3	2.2*	2.3	2.4	2.3	2.4
Vision services	1.4	1.4	1.2	1.1	1.8	1.5*	1.7	1.6	1.3	1.3	1.3	1.4

Note. Regression-adjusted estimates. ER = emergency room; NSLP = National School Lunch Program.

*Difference between ELE and non-ELE children is statistically significant ($p < .05$).

than did non-ELE enrollees. In contrast, dental and vision service volume was generally comparable between ELE and non-ELE enrollees that accessed those services.

Exclusive use of wraparound services was relatively uncommon among both ELE and non-ELE enrollees, occurring among less than 10 percent of enrollees in any state. However, it was significantly more likely among ELE enrollees via four of six ELE processes examined (in three states), by a margin of one to four percentage points. Overall, we do not observe utilization patterns that suggest ELE enrollees are using Medicaid services to wraparound other health insurance coverage.

Costs of Services

Regression-adjusted fee-for-service costs for the first 12 months of coverage are lower for ELE enrollees using services in all three states for which costs were available (Table 5, top panel). For example, among enrollees using services in Alabama, predicted costs were \$2,406 for ELE enrollees and \$2,786 among non-ELE enrollees who used services. Associated costs for outpatient and physician care were notably lower for ELE enrollees who used services; this was a key driver of overall lower costs among ELE enrollees. For example, in Iowa, the predicted cost of physician and outpatient services was 23 percent lower for ELE versus non-ELE enrollees. The gap in actual unadjusted average costs across all ELE and non-ELE enrollees (including nonusers) was much larger, reflecting demographic differences and the lower propensity of ELE enrollees to use services. For example, in Iowa, average unadjusted fee-for-service costs were \$649 for ELE enrollees versus \$2,517 for non-ELE enrollees, including nonusers (Table 5, bottom panel).

CONCLUSIONS

We find that most ELE enrollees accessed Medicaid or CHIP services, tended to access a variety of services, and used those services repeatedly, suggesting that they are deriving substantial value from public health insurance coverage. Exclusive use of wraparound services was a rare outcome for both ELE and non-ELE children, implying that ELE enrollees are not generally using Medicaid as a supplement to other health insurance coverage. However, we do find that ELE enrollees are somewhat less likely to use services, and those who do use services often do so less intensively, when compared to non-ELE enrollees

Table 5: Fee-for-Service Costs within Twelve Months

	<i>Alabama</i>		<i>Iowa Medicaid</i>		<i>Louisiana Opt-Out</i>		<i>Louisiana Opt-In</i>	
	<i>Non-ELE</i>	<i>ELE</i>	<i>Non-ELE</i>	<i>ELE</i>	<i>Non-ELE</i>	<i>ELE</i>	<i>Non-ELE</i>	<i>ELE</i>
<i>Predicted costs among those who use services (\$)†</i>								
All fee-for-service care‡	2,786	2,406*	2,735	2,067*	1,973	943*	1,835	956*
ER services	563	542	631	487	413	299*	375	247*
Inpatient services	10,047	8,969	10,311	10,854	6,664	6,406	8,433	4,174
Physician/outpatient services	1,357	1,200*	1,134	880*	905	444*	782	466*
Prescription fills	376	349*	308	198	576	295*	598	363*
BHSA services	877	761*	—	—	948	699*	712	515*
Dental services	296	298	281	270	480	517*	458	460
Vision services	107	107	123	108	109	75*	115	79*
<i>Actual average costs for all enrollees, including nonusers (\$)†</i>								
All fee-for-service care‡	1,929	630	2,517	649	1,749	559	1,609	584
ER services	179	72	220	69	128	39	99	39
Inpatient services	737	118	1,266	137	361	69	355	42
Physician/outpatient services	908	325	993	326	773	247	630	230
Prescription fills	216	116	205	108	407	110	411	178
BHSA services	99	54	—	—	112	49	81	26
Dental services	81	67	140	111	230	139	224	143
Vision services	18	15	31	23	54	22	45	18

†Regression-adjusted estimates.
‡Rows for individual service types are not additive to fee-for-service total.
*Difference between ELE and non-ELE children is statistically significant ($p < .05$).

in their state. Our results are consistent across four states that have implemented ELE with different partner agencies and through different procedural steps.

While this work has many strengths, some important data limitations should be noted. We were unable to examine costs in New Jersey, where most services are delivered through capitated managed care contracts. Similarly, in Iowa, BHSA services are provided through managed care contracts and we do not present cost estimates for this service type, nor are these costs included in the overall cost estimates for this state, and missing principal procedure codes create the potential to undercount some services (vision care, dental

care, and BHSA services) in that state. More broadly, the set of available demographic control variables varied by state, and use of state-specific procedure codes required customization of measure definitions. Because the regression specifications and measure definitions were not directly comparable across states, our predicted outcomes should not be compared across states. Despite these limitations, we have confidence in the results and conclusions within each state; because we did not pool analyses across states, lack of an available control variable or customization of the measure definition in one state did not influence analyses in the other states.

We also caution that this study focused only on children, and states may not have comparable experiences if they choose to extend ELE policies to adults. In each of the states we analyzed, ELE represents a mechanism to enroll a limited group of children who remain uninsured, despite long-standing program eligibility policies and outreach practices—arguably, these children simply have a lower demand for care. In contrast, the Medicaid expansions occurring in many states as part of health care reform will substantially broaden the group of adults eligible for coverage. While recent work indicates that they may be healthier than historically eligible adult Medicaid beneficiaries, many of these adults may have existing unmet health care needs (Holahan, Kenney, and Pelletier 2010; Decker et al. 2013).

Overall, our results are an important addition to the literature on service use among previously uninsured children. Several studies have examined service utilization among children who newly gained access to coverage with the launch of CHIP and actively chose to enroll in the program. Those studies found that newly insured children used more medical care than when they were uninsured (Lave et al. 1998); while evidence of pent-up demand among new enrollees was mixed (Lin and Lave 1998; Tilford et al. 1999; Goldsteen and Goldsteen 2002). Our findings extend this work by illustrating the utilization patterns of newly insured children, many of whom who *were not actively seeking health insurance* at the time they were automatically enrolled via ELE or received the offer of enrollment via ELE. (Findings that we present for Alabama are a notable exception, as the ELE process in that state begins after families submit a regular application.)

ELE enrollees' use of fewer services may be caused by a variety of reasons that we cannot disentangle through this analysis. Our results are consistent with the theory that even though their families may be seeking other social support services, children who are eligible for but not enrolled in public insurance programs may simply be healthier than their enrolled peers and have lower health care needs (and thus have not previously sought out public

insurance). Other work has found that previously uninsured children appear to be less likely to have chronic health conditions than children covered by Medicaid for a substantial length of time (Byck 2000). Some have raised the concern that ELE enrollees—especially those enrolled through automated, passive processes—may not access services because they are unaware they are covered, or, if they know they are covered, may be unfamiliar with the ways they should begin seeking services. The fact that most ELE enrollees use a variety of services, and the consistency of our results across states that use diverse ELE mechanisms, as well as within a state (Louisiana) that changed its ELE process, dampen these concerns.

As states consider adopting ELE policies, or simply manage implementation of the Patient Protection and Affordable Care Act (ACA), these results provide an important preview of the types of costs that states might expect to incur for children who newly enroll. While coverage gains for children have been substantial over the past decade, Medicaid and CHIP participation rates in some states still lag. For example, in 14 states in 2011, the percentage of eligible children who actually enrolled in Medicaid or CHIP was less than 85 percent (Kenney, Anderson, and Lynch 2013). As families seek insurance to comply with the ACA's individual mandate, more of these children are likely to become enrolled. Our ELE study suggests that these eligible but uninsured children are unlikely to be more expensive and may even be less expensive to cover than existing beneficiaries. In the three states for which we had cost data, average unadjusted fee-for-service costs were about 3-fold lower for ELE enrollees, when compared to non-ELE enrollees. These findings are especially relevant for states that deliver Medicaid and CHIP services via managed care organizations and must negotiate appropriate capitation rates.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Appendix SA1: Author Matrix.

Appendix SA2: Unadjusted Utilization Rates.