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The Special Education Expenditure Project (SEEP): Synthesis of Findings and Policy Implications

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Reflecting the need for updated, comprehensive and accurate information, the Special Education Expenditure Project¹ was included in a series of studies mandated by Congress in 1997 to measure and evaluate the impact of the federal Individuals with Disabilities Education Act (IDEA). SEEP was the first comprehensive, nationally representative study of special education spending to be undertaken in more than a decade and the fourth in a series of studies over the past 40 years examining the nation's spending on special education and related services.² This article summarizes the results of the SEEP, compares these results to those of the three prior expenditure studies and discusses some of the policy implications of this work. Project Forum at the National Association of State Directors of Special Education (NASDSE) completed this task as part of its cooperative agreement with the U.S. Department of Education's Office of Special Education Programs (OSEP).

Overview of the Study

This document is a synthesis of research largely presented in an article in the *Journal of Special Education Leadership* (Chambers, Pérez, Harr, and Shkolnik, 2005). That article reviewed findings from the Special Education Expenditure Project (SEEP). SEEP used 23 different surveys to collect data for the 1999-2000 school year at the state, district, school, teacher and student level.³ Survey respondents included special education teachers and related service providers, who were each asked to select a sample of two students with disabilities from the rosters of students they served. This provided a sample of approximately 10,000 students with disabilities from more than 1,000 schools in 45 states and the District of Columbia.

In addition to the national SEEP, all 50 states were invited to extend their participation in this project to obtain state-representative samples that could be used to address state-level policy

¹ The complete SEEP findings and data can be found at <http://www.csef-air.org>

² SEEP was conducted by the American Institutes for Research (AIR) for the Office of Special Education Programs (OSEP) within the U.S. Department of Education.

³ The full set of data collection instruments is available at http://csef.air.org/about_seep_instruments.php

concerns related to special education finance. As a result of these additional studies, comparative data for seven states were presented in the Chambers et al. article and are synthesized here.

A Conceptual Framework for Analyzing Special Education Spending

Before presenting the analyses, it is important to define the following three concepts:

- ***Total special education spending*** includes amounts used to employ special education teachers, related service providers and special education administrators. It also includes spending on special transportation services for students with disabilities and non-personnel items (e.g., materials, supplies and technological supports) purchased under the auspices of the special education program.
- ***Total spending to educate a student with a disability*** encompasses *all* school resources, including special and general education as well as other special needs programs (e.g., Title I, English language learner services or gifted and talented education) used to provide a comprehensive educational program to meet a student's needs. Most students with disabilities spend substantial amounts of time in general education classrooms and they benefit from the same administrative and support services as all other students.
- ***Additional expenditures used to educate a student with a disability*** are measured by the difference between the total spending to educate a student with a disability and the total spending to educate a general education student (i.e., a student with no disabilities or other special needs).

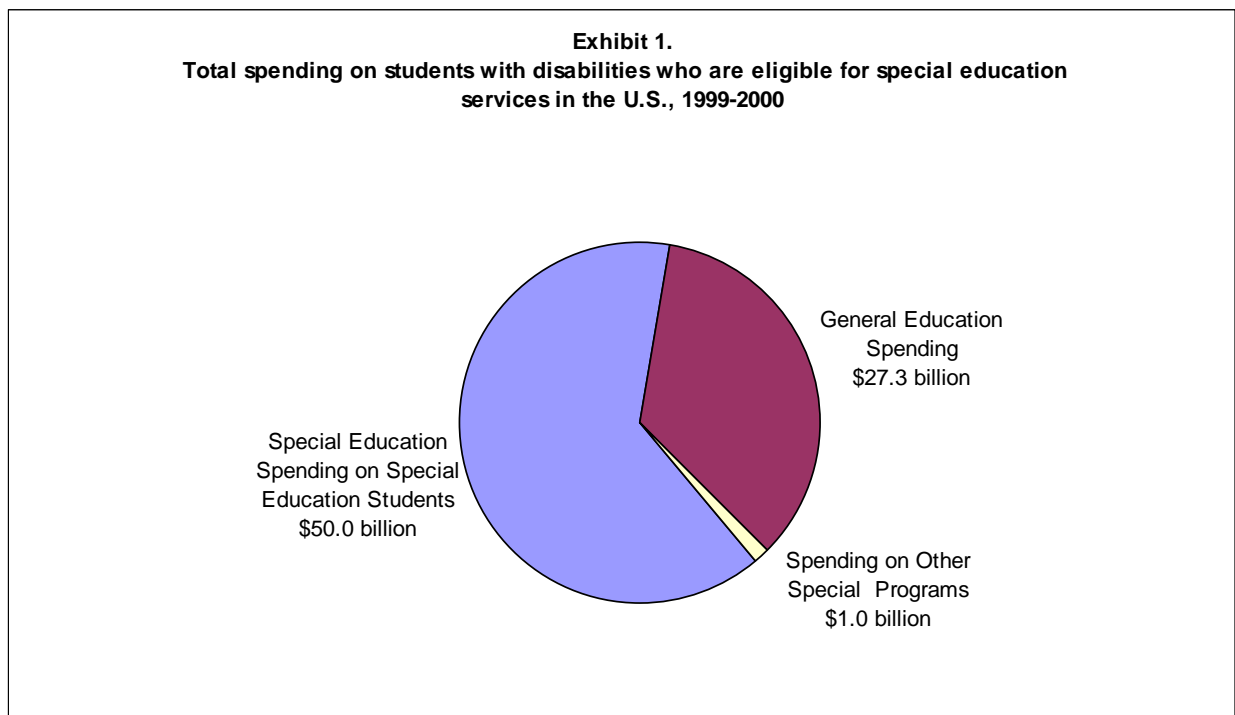
An important conceptual issue is the distinction between expenditure and cost. The four special education studies discussed here are technically expenditure studies. The word cost is defined by economists as the minimum expenditure required to achieve a specified outcome. None of these studies attempt to define an intended outcome or attempt to measure success in achieving it.

On the other hand, these studies come much closer to reflecting "cost" than similar studies for non-special education students. The individualized education program (IEP) that IDEA requires for every student eligible to receive special education services is a legal contract in which the unique needs of the student must be fully examined by a multi-disciplinary team of appropriate professionals to establish educational goals and to specify the location, frequency and duration of services necessary to make progress toward those goals. The IEP represents an entitlement and obligation for services for students in special education that has no counterpart for students not in special education. Moreover, under federal special education law, the cost of the services cannot be considered in determining the services necessary to provide a student with a free and appropriate education. The No Child Left Behind Act of 2001 (NCLB) has additional requirements to ensure that professionals delivering various educational services have the appropriate qualifications. For these reasons, studies measuring special education spending reflect, at least in the judgment of a designated group of appropriate professional service providers, the services necessary to achieve progress toward achieving specified and appropriate educational objectives for each individual student in special education.

SEEP differs from previous studies in that it is based on comprehensive descriptions of **all** (general and special) education services received by a large, nationally representative sample of approximately 10,000 students with disabilities. Previous studies of special education spending have not attempted to obtain this kind of detail at the level of the individual student.

Total Spending on Students with Disabilities

Based on the results of SEEP, it is estimated that the U.S. spent about \$50 billion on special education services for students with disabilities in the 1999-2000 school year. Another \$27.3 billion was spent on general education services and an additional \$1 billion was spent on other special needs programs for students with disabilities. Thus, *total spending to educate all students with disabilities* amounted to \$78.3 billion (see Exhibit 1).



Based on these figures, the total spending to educate students with disabilities represents 21.4% of the \$360.6 billion total spending on elementary and secondary education in the U.S.⁴ Total special education spending alone accounts for 13.9% of total spending.

Additional Expenditure to Educate a Student with a Disability

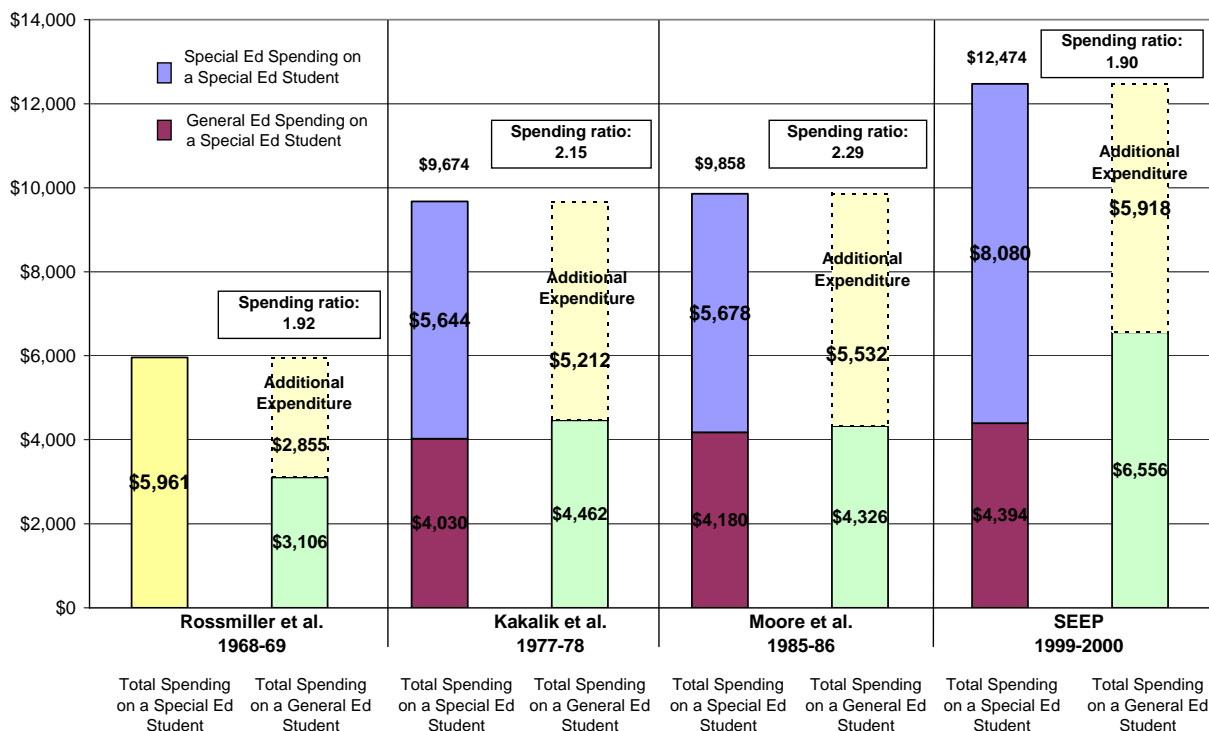
Exhibit 2 illustrates the concept of marginal expenditure (i.e., how much more is spent) on children receiving special education services. The first bar of each of the four pairs shows the

⁴ Including other special needs programs, the total spending represents 21.7 percent of the total spending on elementary and secondary education.

average total expenditure to educate a student with a disability. These figures include instruction, related services, transportation and administration and support services.

The second-to-last bar in the Exhibit shows that for 1999-2000, total expenditure for school-aged students with disabilities amounted to \$12,474, which included \$4,394 for general education services and \$8,080 for special education services. In addition to total spending, another relevant question is the *additional* expenditure on a special education student, as depicted in the second bar in each of the four panels included in this Exhibit. Addressing this question requires a comparison of the special education student to a consistent benchmark—the general education student receiving no supplemental services. For 1999-2000, the SEEP data indicate that the base expenditure on a general education student amounts to \$6,556 per pupil. Comparing this figure to the average expenditure for a student eligible to receive special education services, the additional expenditure amounts to \$5,918 per pupil (\$12,474 - \$6,556) for school-aged students with a disability.

Exhibit 2. Spending per Special Education Student Over Time (In 1999-2000 Dollars)



Spending Ratio

Another way to present the additional expenditure is in the form of a *spending ratio* (i.e., the total amount spent to educate a student with a disability divided by the total amount spent on a

general education student with no special needs.)⁵ As stated previously, total spending of \$12,474 on a typical school-aged student with a disability includes special and general education services. The ratio of this expenditure to that for a general education student (with no special needs) is estimated to be 1.90 (\$12,474/\$6,556) for 1999-2000, as shown in Exhibit 2. This suggests that, on average, the nation spent 90 percent more on the average school-aged special education student than on a general education student in the 1999-2000 school year.

Changes in Spending Ratio Over Time

Using data from SEEP and the three previous research studies by Rossmiller et al. (1970), Kakalik et al. (1981) and Moore et al. (1988), we can get a sense of how much special education spending has changed over time. The 1985-86 study (Moore et al.) estimated the special education to general education spending per student ratio to be about 2.28. That is, the *additional expenditure* on a student with disabilities was estimated to be 1.28 times the amount spent on a typical general education student. As shown in Exhibit 2, this number appears to have increased from 1.92 in 1968-69 (Rossmiller et al., 1970), to 2.15 in 1977-78 (Kakalik et al., 1981), to a high of 2.28 in 1985-86 (Moore et al., 1988). Rather than continuing to rise, based on the 1999-2000 school year SEEP data, this spending ratio appears to have declined to 1.90.

In constant dollars, the expenditure per pupil to educate a school-aged student with a disability increased from \$5,961 per pupil in 1968-69 to \$12,449 in 1999-2000, an annualized growth rate of 2.4% in real terms.⁶ Over this same time span, estimated spending per general education student increased from \$3,106 to \$6,556. In other words, total per pupil spending on the average special education student increased by 108%, while total per pupil spending on the average general education student increased by 110%.⁷

Although per pupil general education spending increased at a faster rate than special education spending, total spending on students with disabilities increased from about 16.6% of total education spending in 1977-1978⁸ to 21.4% in 1999-2000. Over the same period, the percentage of students aged 3-22 who were receiving special education services increased from about 8.3%

⁵ Estimates of per pupil expenditure for a general education student are based on a combination of data from the SEEP school surveys and SEEP surveys for those students in special education who spend the vast majority of their time in the general education classroom. Expenditures for these students include both direct instruction as well as administration and support services provided to the typical general education student.

⁶ Total per student spending in 1999-2000 was \$12,639 if Title I, English language learner and gifted and talented education services are included. Since the previous studies were not able to estimate expenditures on special needs programs, SEEP excluded these programs to facilitate comparisons across the studies over time in Exhibit 2. To further increase the comparability across the studies, SEEP included only school-aged students with disabilities in the data reported (and excluded preschool or gifted students).

⁷ The annualized growth rate between the 1968-69 and 1977-78 studies was 5.4%, while the annualized growth rate was only 0.4% between the 1977-78 and 1985-86 studies, and 1.7% between 1985-86 and 1999-2000. The annualized growth rates for expenditure per pupil for a general education student with no special needs over each of these periods of time were 4.1%, -0.4% and 3.0%, respectively.

⁸ The 1977-78 school year was two years after passage of the Education for All Handicapped Children Act, PL 94-142, the predecessor to the IDEA.

to almost 12.1% of the total enrollment.⁹ The implication is that the growth in the numbers of students served in special education programs accounts for the increase in special education spending as a percentage of total education spending.

Variations in Spending on Students with Disabilities Across States

With these national estimates in mind, the next section of this paper explores how spending on students with disabilities varies across states. While the national SEEP generally does not have samples of sufficient size to be state representative, seven state SEEP studies did generate such information.

Exhibit 3 compares the expenditure data for these seven states to the national SEEP estimates. All data are presented in 1999-2000 dollars (two of the state studies were conducted in 2001-2002). The Figure displays estimates of total spending to educate school-aged students with disabilities and is separated into general and special education components.

Among these seven states, the total real spending on the average special education student ranged from \$10,141 to \$15,081. Total spending in four of these states fell below the national average of \$12,449 and three were above the national average.¹⁰

The broad range of special education spending per student across the states is further depicted by the percentage variation from the national average shown in the second row of the table at the bottom of Exhibit 3. Another perspective on the degree of variance is represented in the final row, which shows regionally cost-adjusted percentage variations. These percentages are based on figures that have been adjusted for geographic variations in the cost of education.

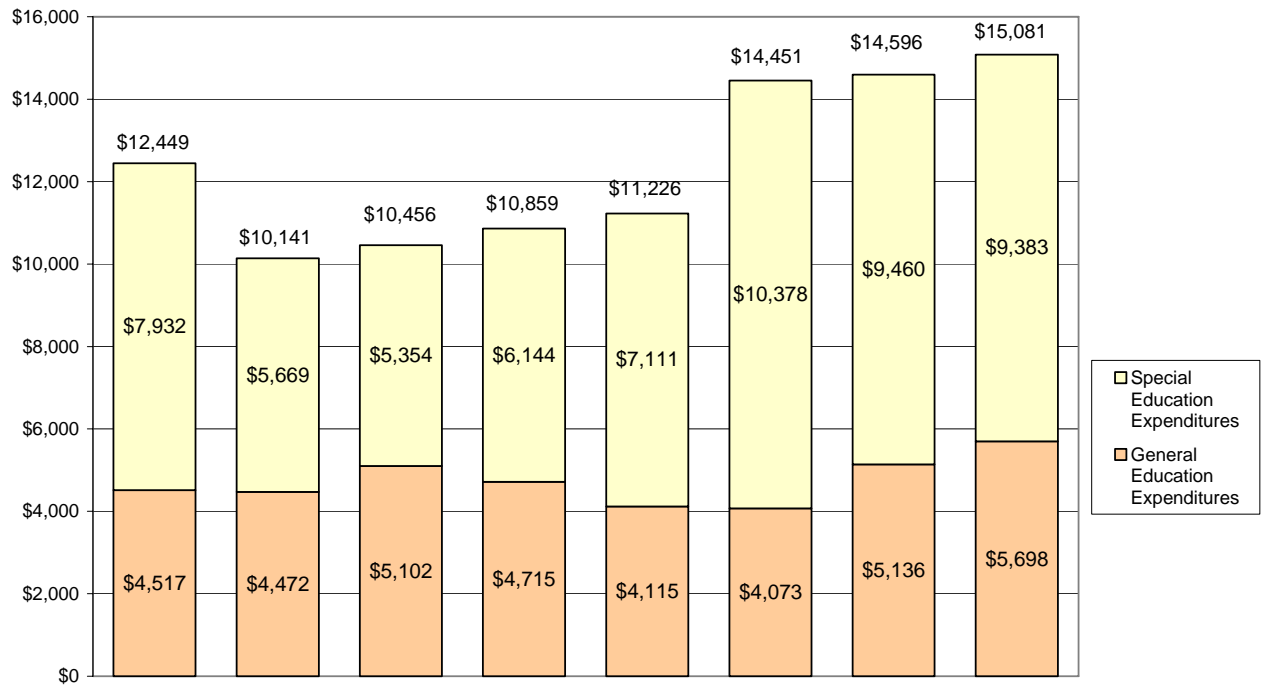
The average percentage of total expenditure accounted for by general education services ranged from a low of 28% in Maryland, which is among the highest-spending states in the sample, to a high of 49% in Alabama, which is in the bottom half of the sample. Indeed, there is an inverse relationship between the proportion of spending on students in special education for general education services and the average total spending to educate a special education student.¹¹ That is, the states with the highest average special education spending per student show the lowest proportion of spending on students in special education devoted to general education.

⁹ It is difficult to obtain accurate data on the proportion of children served prior to the 1975 passage of the Education for All Handicapped Children's Act. The body of data collected in 1968-69 by Rossmiller is simply too small to provide accurate estimates comparable to those available after 1975.

¹⁰ The Figure focuses on school-aged students, since there is considerable variation in the way preschool programs for students with disabilities are implemented across states, and SEEP samples of preschool students are not sufficient to be representative on a state level.

¹¹ The correlation between the percent general education spending and total spending on a student in special education exceeds -0.80.

Exhibit 3. Total Expenditures Per Pupil to Educate School-Aged Students with Disabilities for the Nation and Selected States, 1999-2000 dollars



| | Nation | Missouri | Alabama | Indiana | Kansas | Maryland | Wyoming | Rhode Island |
|---|--------|----------|---------|---------|--------|----------|---------|--------------|
| Spending ratio: | 1.90 | 1.61 | 1.57 | 1.71 | 1.89 | 2.55 | 2.26 | 2.04 |
| Percent difference from national average spending: | N/A | -19% | -16% | -13% | -10% | 16% | 17% | 21% |
| Regionally cost-adjusted difference from national average spending: | N/A | -14% | -6% | -7% | 1% | 14% | 28% | 10% |

State-level equivalents of the national spending ratio of 1.90 (shown in Exhibit 2) are also shown in Exhibit 3. They vary from a low of 1.57 for Alabama to a high of 2.55 for Maryland. Variations in the spending ratio across states reflect some combination of the overall willingness of a state to spend money on educational services, the relative priority of general versus special education and the composition of students with respect to needs and expenditures. They also reflect differences in the policies and practices associated with the identification and funding of programs for students with disabilities.

For example, among these states, there is a positive correlation (0.38)¹² between real levels of state spending on education and the special education spending ratio. That is, higher-spending states on average tend to exhibit higher ratios of special education spending to general education spending. Thus, the higher-spending states are not only willing to spend more on general education, but are also willing to spend proportionately more on special education. In contrast, there is virtually no relationship between the spending ratio and the percentage of students identified as eligible for special education across these seven states.

Variations in Spending by Disability Category

Students with disabilities are not a homogeneous group; there is a wide range of student needs. SEEP provided estimates of spending by disability category. Among those students not served in external placements, the highest average total expenditures were for students with multiple disabilities (\$20,095).¹³ Four of the 13 disability categories (specific learning disabilities, speech or language impairment, emotional disturbance and mental retardation) make up the vast majority of the population of students with disabilities. The two most common disabilities, specific learning disability and speech or language impairment, make up more than 60% of the special education population. These are also the two disabilities with the lowest per pupil expenditures, at \$10,558 and \$10,958, respectively. Using the estimated average spending for a general education student of \$6,556 per year, the education expenditure for a student with a disability can range from 1.6 (specific learning disability) to 3.1 (multiple disabilities) to 3.9 (external placements) times the average expenditure for a general education student.

Relationship Among Special Education Enrollments, Disability and Spending

Changes in the patterns of special education expenditures, including the spending ratios discussed above, may reflect the changing relationship among special education enrollments, expenditures and disability categories over time. Although the ratio of general to special education spending per student appears to have dropped over time, special education spending as a percentage of total education spending has increased.

¹² This analysis includes data for three additional SEEP states for which data are not publicly available.

¹³ These expenditures on special education students include personnel and non-personnel expenditures on general education instruction, special education instruction and related services, other special need programs (e.g., Title I, ELL), general school and district administration and support, special education program administration and support, general and special transportation services and school facilities. Average expenditure estimates for specialized equipment are not unique to the student level and therefore may not reflect the actual expenditures for each disability type. It is expected that the estimates for disability categories with high special equipment needs are understated, and estimates for disability categories that have fewer such needs are overstated. Preschool students are not included in these data. Because of the way in which SEEP staff sampled students served in external placements, expenditures for this subset of students are not included in the expenditures by category of disability and are reported separately as a group. These students in external placements are generally served in non-public schools or schools operated by other public agencies. This group of students exhibited the highest average total expenditure (\$25,580).

Some contend that this has occurred primarily due to a rise in the number of high-need, high-expenditure students. For the years 1988-89 and 2001-02, the largest percentage increase (569%) was in the category of other health impairment. In addition, two new categories of disability emerged during this time period—autism and traumatic brain injury. However, the cost significance of the growth in these categories, as well as the substantial growth in the categories of multiple disability and orthopedic impairment, is overwhelmed by the 850,000 additional students in the specific learning disability category, which by itself accounts for 54% of the total growth in the special education population. The increase in students in this single, relatively less expensive to serve, category outpaces the increases in all of the other categories combined.

These data support the assertion that rising numbers of less severe, high-incidence students account for the majority of growth in special education enrollments and spending. The increased number of lower-expenditure students with disabilities may also help account for the drop in the special-to-general education expenditure ratio in the last decade.

Policy Implications

Beyond the valuable descriptive information SEEP provides, what can special education directors, education policymakers and other interested parties draw from it? What insight do these findings offer to the formation of education policy? There are several areas in which SEEP data extend beyond interesting descriptive information to important policy relevance. Brief descriptions of three important areas follow.

First, SEEP data show that average per student in special education spending has risen substantially in real terms over the past 15 years. Over this same time period, however, average spending per general education student has grown even more. As a result, as shown earlier in Figure 2, an important and somewhat surprising finding from Moore et al. (1985-86) and SEEP (1999-2000) is that the ratio of special to general education spending declined during the period between these two studies. This declining ratio may seem counter to commonly cited policy concerns related to rising special education spending.

At the same time, the contention that special education spending is rising as a percentage of total education spending is correct. Rising special education enrollments have led to special education rising as a percentage of overall education spending. The declining per pupil spending ratio simply illustrates that this rising overall expenditure is much more attributable to increased special education enrollments than to expenditures on the proportionately few high cost students with severe disabilities.

Thus, a first important policy implication of SEEP is that the linkage between rising enrollments and overall special education spending suggests that creating alternatives to special education for struggling students may be among the most effective methods for realizing long-term reductions in special education spending. It also suggests the importance of general and special educators working together to realize special education cost control.

General and special educators working together—each lending their specialized expertise to create alternatives for these students who have relatively mild learning challenges—may provide the greatest overall promise for special education cost control. This collaboration is encouraged by a provision in the reauthorized IDEA that allows up to 15% of IDEA funds to be used for early intervention services for students not identified as special education, but who need additional support to succeed in the general education environment.

A second area of policy relevance from SEEP relates to the considerable variation in spending found across states. These variations raise important questions as to the relative equity and adequacy of special education services for students across the nation. Despite the IDEA mandate of services driven by individual student needs, variations in services also seem to be substantially affected by where a child resides. In addition to observed variations in average levels of provision observed across states, at least one study also illustrates broad variations in service across districts within a state. For example, a study conducted for Wyoming (Parrish et al., 2002) found that one district provided speech therapy to more than two-thirds of its special education students, whereas another district only provided this service to one percent of its special education students.

Thus, the second important policy implication from SEEP is the need to define what constitutes reasonable special education service standards. For example, in a medium to large school district, what percentage of special education students might be expected to receive speech therapy? While these measures will, and should, vary to reflect differing local conditions, a greater understanding of what should be reasonably expected may assist districts and states to self-evaluate their service decisions and could be an integral piece of state and federal monitoring. SEEP provides information on average practice, as well as reasonable boundaries around these averages, that could lead to more uniform, and likely more efficient, national practice.

A third important area of policy relevance from SEEP is the need for consideration of alternative bases for state special education funding formulas. The most predominant education finance questions over the past decade have revolved around issues of education adequacy. Most state constitutions have expressed some level of guarantee in regard to the provision of public education. Moreover, the increased emphasis on education accountability and clearly specified expectations in regard to education outcomes for all students has heightened policy discussion regarding what constitutes adequate levels of education provision to meet these standards. Education adequacy has been the central focus of school finance litigation in many states over the past 10 to 20 years.¹⁴

These court cases, as well as general interest in questions of educational adequacy, have led to a number of studies attempting to specifically define the concept of adequacy in education, with the most common bottom-line question being what it would cost to educate the students of the state, given its implicit (or sometimes explicit) education outcome standard. These studies tend

¹⁴ For an up-to-date description of the adequacy movement across the states see the Campaign for Fiscal Equity's Access Network at <http://www.cfequity.org>.

to be detailed examinations of educational provision in the state, with the goal of developing a normative standard of what these provisions should be. Unfortunately, however, the majority of these studies have paid relatively little attention to the needs of special education students.

Two recent exceptions to this general lack of focus on the question of special education adequacy are studies done for the states of Wyoming (Parrish et al., 2002) and New York (Chambers et al., 2004). Despite these recent efforts, the question of special education adequacy has not been well explored across the states as compared to virtually all other areas of education. While SEEP is not the perfect answer for filling this void, it provides by far the best existing body of information for considering questions of special education adequacy. In recognition of this, two current studies of education adequacy for the state of California are relying heavily on SEEP in considering special education adequacy.¹⁵ In the future, we believe states should increasingly look to SEEP data as an important basis for considering special education adequacy.

Conclusion

As mentioned at the onset of this synthesis, SEEP was primarily intended to fill the need for updated, comprehensive and accurate information in a series of studies mandated by Congress in 1997. Given these origins and initial purpose, it is primarily a descriptive study of special education spending. At the same time, it provides a wealth of insight into some of the details of special education provision across the nation. Reflecting detailed service descriptions for over 10,000 special education students, it provides knowledge well beyond what was previously known regarding the exact mix of services that students with varying primary categories of disability receive in varying types of districts and in some cases across individual states. Beyond descriptive data, SEEP provides a wealth of information for informing future special education policy.

¹⁵ These two studies of education adequacy in California are being conducted as part of a series of studies to be completed in 2006 through Stanford University and which are funded by the Bill and Melinda Gates Foundation, the William and Flora Hewlett Foundation, the James Irvine Foundation and the Stuart Foundation. The two studies within this larger set of projects that will focus on producing an education adequacy cost estimate for the state are being led by Jon Sonstelie, of UC Santa Barbara and Jay Chambers and Tom Parrish, of the American Institutes for Research (AIR).

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