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The impact of government decentralization on county health spending for the uninsured in California

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Abstract We analyze *Program Realignment*, California's 1991 policy of decentralizing control of health, mental health, and social services, from the state to the counties. Drawing from the economics literature on intergovernmental transfers and using data constructed for this study, we analyze the impact of Realignment on uninsured health spending. We find a change in the pattern of spending on indigent health services by counties following decentralization. Our results suggest, however, that county-level governments maintain a level of commitment to social-service spending that recent studies indicate may be lacking at the state level.

Keywords Federalism · State and local budget and expenditures · Public health

JEL Classifications H72 · H77 · I18

Introduction

The past decade has seen a shift in control of health and social programs for the poor from the federal to state governments. While there is still considerable debate about the proper mix of federal and state authority in the delivery of these basic income and health programs, researchers are only beginning to assess the impact of

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this shift in control. Nonetheless, as Winston (2002) notes, there is a particular need to have reliable evidence on the impact of the devolution of public services, because populations that rely on these services have varying political and policymaking influence at sub-federal levels of government.

The process of devolving public programs at the national level—commonly referred as the "new federalism"[1] —resembles, on a larger scale, a policy that was implemented over a decade ago in the country's most populous state, California. In 1991, *Program Realignment* (i.e. Realignment) transferred authority for the state's major safety-net programs, including mental health, social services, and general health, from the state to the counties. California's form of decentralization is similar to that described by Rivlin (1991), in which local jurisdictions draw from a larger, shared revenue base, but have control in allocating resources among various public services. While Scheffler, Wallace, Hu, Garrett, and Bloom (2000) have looked at the impact of Realignment on mental health services, this is the first study looking at its effect on general health services for the uninsured. Moreover, unlike previous studies of the program, ours takes into consideration the flexibility Realignment gave counties to transfer state funds among all three service areas (mental health, social service, and general health services). Thus, this paper more comprehensively assesses the impact of the program, following the longstanding, as well as some recent, economics literature on intergovernmental transfers.

Our analysis focuses on the question of how the county-level governments responded to having greater financial flexibility and responsibility in a more decentralized environment. We formally test for so-called and often observed "flypaper effects," as described in the economics literature by Fisher (1982), Winer (1983), and Grossman (1990), in which there is a tendency for intergovernmental aid to not be diverted from its intended target. The notion of flypaper effects serves as a null hypothesis against the alternative that local governments allocate fungible resources differently than higher, more centralized levels of government. In our analysis, we assess these competing hypotheses in the context of an important change Realignment brought to the rules for matching state funds for indigent health services, a change which effectively reduced the rate by which counties must match state funding of these services. We find that this change, which gave counties far more financial flexibility than intended, largely explains the relative lack of use of the formal transfer option under Realignment. In addition, while recent studies show that matching federal grants targeted at services for the poor can be diverted away from these services at the state level (Baicker & Staiger, 2005, Duggan, 2000), our results show that California's counties, while also engaged in diverting intergovernmental revenues targeted for the poor, generally allocated these resources *within* the realigned health and social service programs following Realignment. Thus, our results suggest a pattern of fiscal and social behavior at the county level that differs from that at some levels of state government.

The remainder of the paper is organized as follows. The next section provides a brief history and description of Realignment, highlighting its general features while focusing on the key changes (the transfer option and change in matching rate) that have specifically affected spending on health services. The second section describes the data employed in our analysis, which consists of a unique panel of California's

[1] A recent series of studies have been conducted as part of The Urban Institute's *Assessing the New Federalism* project. Details are available online at: http://www.urban.org/Content/Research/NewFederalism/AboutANF/AboutANF.htm

23 most populous counties, observed between 1989 and 2000. While California has a total of 58 counties, we have complete health spending data over the entire period for only these 23. This subset of counties comprises, however, approximately 85–90% of the state's population. The third and fourth sections of the paper present two analyses of county health spending in the pre- and post-Realignment periods. The first employs a logistic model analyzing the determinants of the use of the formal transfer option under Realignment (which, as mentioned, allows counties to move funds among health, mental health, and social services), with a focus on how the change in the matching-funds rate has affected counties' reliance on this feature. The second analysis then uses an empirical application of the median voter model to assess the overall impact of Realignment on counties' discretionary spending on indigent health, as well as on mental health, services. For reasons to be explained, control of social services largely returned to the state and federal levels within a few years of the passage of Realignment, and so we omit these services from our analysis of overall spending. The paper concludes with a discussion of the implications of our findings.

Realignment: California's venture into decentralization

Background and general features

California's counties have a long history, dating back to the 19th century, of providing general assistance and health care to their indigent populations (National Health Law Program, 1997). According to the California Legislative Analyst's Office (LAO) (1995), under California law, counties are ultimately responsible for providing health care to those who have no other means of payment. However, beginning in the early 1970s, with the advent of Medi-Cal (California's version of Medicaid), the state began to take on the responsibility of providing health care to the poor. The state's role was reinforced in 1978 with passage of Proposition 13, which put a statewide cap on property taxes (the base rate constitutionally set to 1%), greatly reducing the ability of county authorities to finance public services on their own. This process began to reverse itself in 1983, when the state removed medically indigent adults from its Medi-Cal rolls, returning responsibility back to the counties. Until 1991, though, the state continued to finance these health services through two channels of the state's General Fund: the Assembly Bill 8 (AB8) and Medically Indigent Adults (MIA) programs. However, in 1991, during a state fiscal crisis, and after a decade of legal wrangling between the state and the counties over the state's performance in meeting its constitutional obligation to reimburse counties for mandated services, the California Legislature enacted Realignment (AB 1288). This legislation replaced, dollar for dollar, general state revenues (the General Fund) with revenues from a one-half percent increase in the state sales tax, and a 25% increase in annual statewide vehicle license fees (VLF). It also, as mentioned, formally gave the counties some flexibility to reallocate these revenues across three service areas: health, mental health, and social services.

While Realignment sounds like a uniform policy change, its impact across the three services areas has been different. For health services, Realignment has generally been characterized, and as noted by Hill (2001), a means "to relieve the state General Fund of fiscal pressure" (p. 19). Because the counties already had administrative authority over these services (since 1983), the only apparent change for health services was a

change in funding source. As explained below, this assessment is not entirely accurate. Nonetheless, it is clear that Realignment more fundamentally changed the relationship between the state and the counties in the delivery of indigent mental health and social services. For mental health services, Realignment removed state-mandated spending restrictions and increased counties' liability for inpatient psychiatric care from zero to 100%. According to Scheffler et al. (2000), this has led, in the post-Realignment period, to counties substituting less costly outpatient for more costly inpatient care. For social services, Realignment brought a substantial increase in the counties' cost share for programs that are financed jointly with the state. For instance, the counties' share of costs for foster care rose from 5% to 60%, for in-home support services, 3–35%, and for adoption assistance, 0–25%. While the changes to mental health and social services were also intended to relieve the state of fiscal pressure, unlike with general health services, these changes increased county authority in areas of mental health and social services that did not exist prior to Realignment.

The transfer option

As mentioned, Realignment has given counties the ability to reallocate state revenues dedicated for one service into one or both of the other services, making these revenues more fungible in the post-Realignment period. The transfer option represents a significant departure from the general fiscal relationship between the state and the counties because, unlike most states, California law grants to the state a great deal of authority in setting the rate of locally generated revenues, including property taxes, sales taxes, and VLF.[2] Thus, until Realignment, counties had very little flexibility in affecting the revenue side of their budgets, in addition to having limited authority in the delivery of public services (with the exception of health services since 1983).

However, the state has even set limits on the transfer option. Specifically, beginning in fiscal year 1991, the first year of Realignment, counties could divert up to 10% of funds designated for health to social or mental health services, and as of fiscal year 1992, could divert an additional 10% from health to social services to offset caseload increases for mandated social service programs. It was not until fiscal year 1993 that counties were first allowed to divert funds from social to either health or mental health services. Consistent with these rules of transfer, Hill (2001) has calculated that, between 1993 and 1998 (post-Realignment years), there was collectively a net increase in funds allocated to social services, but a net decrease in funds allocated to both mental health and health services.

To provide a more detailed view of how counties have used the transfer option, Table 1 presents average percentage transfers among the three service areas, for each county in our sample, in the post-Realignment period. Positive values indicate net transfers into a service, while negative values indicate net transfers out of a service. As seen by the many empty cells, the transfer option has not been widely exercised. In fact, a little over half of the sample counties (13 out of 24) have made any transfers under Realignment, and for many of these counties, the average size is quite small, falling well below statutory maximums. So why has the transfer option been so little used in the post-Realignment period?

[2] As a result of Proposition 13 (1978), property tax rates cannot exceed one percent. Standard county sales tax rates are 1.25% under the authority of the Bradley–Burns Uniform Local Sales and Use Tax (1967), with a majority of voters required for county sales tax rates to exceed this level (from 2002 LAO report).

Table 1 Average realignment transfers (1993–2000)

County	Social service and health transfers		Mental health and health transfers		Social service and mental health transfers	
	Transfer as a percentage of social service realignment revenue (%)	Transfer as a percentage of health realignment revenue (%)	Transfer as a percentage of mental health realignment revenue (%)	Transfer as a percentage of health realignment revenue revenue (%)	Transfer as a percentage of social service realignment revenue (%)	Transfer as a percentage of mental health realignment revenue (%)
Alameda	–	–	–	–	–	–
Contra Costa	–	–	–	–	–	–
Fresno	14.78	−7.09	−2.66	2.39	12.00	−8.03
Kern	8.46	−3.47	−1.00	.89	4.10	−2.41
Los Angeles	3.67	−1.97	–	–	2.28	−1.65
Merced	–	–	−2.30	2.29	6.55	−4.69
Monterey	–	–	–	–	–	–
Orange	–	–	1.10	−.88	–	–
Placer	–	–	–	–	–	–
Riverside	–	–	–	–	–	–
Sacramento	−2.40	2.24	−5.53	5.54	.42	−.74
San Bernardino	1.21	−1.44	−1.25	1.34	4.96	−4.92
San Diego	–	–	–	–	–	–
San Francisco	–	–	–	–	–	–
San Joaquin	.02	−.03	−3.19	3.71	6.21	−17.72
San Luis Obispo	.17	−.16	.04	−.03	–	–
San Mateo	–	–	–	–	–	–
Santa Barbara	–	–	–	–	–	–
Santa Clara	–	–	11.51	−11.83	–	–
Santa Cruz	–	–	–	–	–	–
Stanislaus	–	–	–	–	–	–
Tulare	−.39	.41	−1.50	1.49	2.97	−2.89
Ventura	−1.47	.66	−3.49	3.20	−.25	.16
Yolo	1.58	−1.34	−.15	.13	.96	−.94
Average	3.42	1.88	2.81	2.81	4.07	4.42

Nominal versus effective matching of state indigent health funds

One answer to this question comes from an important but seemingly underappreciated (from the authors' assessment of the relevant state literature on Realignment) statutory change in the definition of Realignment funds, a change that has effectively—and substantially—enhanced the financial flexibility of counties in the post-Realignment period. Since 1978, when the state began providing general-purpose funds to replace the locally generated revenues that were lost as a result of Proposition 13, counties have been required by the state to maintain spending on health services at minimum levels to ensure that these revenues do not merely replace county funding of indigent health services. These, so-called financial *maintenance of effort* (MOE) mandates require county health expenditures to exceed revenues received from the state by a specified amount (DHS, 1999). Prior to Realignment, AB8 and MIA funds were considered state revenues. As such, if the state provided more of these funds, then counties, in order to maintain their eligibility to receive state revenues, had to increase spending accordingly.

In the post-Realignment period, the new funds generated from the sales tax and vehicle licensing fees (i.e. Realignment funds) are, by statute, not viewed as state revenues but rather as county-generated funds (DHS, 1999). Indeed, these funds are now included as part of each county's MOE requirement even though they are actually still revenues transferred from the state to the counties. Moreover, the overall MOE of counties did not change, in real terms, as a result of Realignment, and so the actual amount of county resources needed to comply with MOE requirements has been substantially reduced, and to be exact, by an amount equal to the level of Realignment health funds received from the state. This change has effectively reduced the counties' matching rate, on average, from about 25 to 10 percent, and unintentionally (it seems) converted funds for indigent health services from a targeted, non-fungible, to a non-targeted, fungible source of intergovernmental revenues from the state to the counties.

Non-realignment health programs

Another reason why counties may have had little need to utilize the transfer option under Realignment is because of the existence of two other statewide health programs, more or less initiated at the time Realignment was enacted, that have significantly increased funds available for indigent health services. The first of these is the voter-approved Proposition 99, known as the "Tobacco Tax and Health Protection Act," which was passed in 1988 and implemented the following year. The proceeds from the Proposition 99 tax (and more recently, appropriated from the state General Fund) are allocated to counties, on a matching basis, for indigent health services. In fiscal year 1992–1993, Proposition 99 funds to the counties totaled $211 million (California Legislative Analyst's Office (LAO), 1995), or about 30% of what counties received in Realignment revenues that year.

Another source of funds for indigent health services is the Disproportionate Share Hospital (DSH) program, established by two pieces of legislation, SB 1255 and SB 855, between 1989 and 1991. This program has enabled the creation of supplemental state and federal payments to hospitals that serve disproportionate numbers of indigent patients. Under this program, public entities that operate these hospitals, such as counties, receive funds from the state. These funds are matched by federal funds and distributed to eligible hospitals in the form of supplemental payments.

However, as studies by Duggan (2000) and Baicker & Staiger (2005) have recently shown, the state's portion of DSH funds have mostly been returned to the state in the form of intergovernmental transfers. Our data, based on annual hospital financial reports, indicate that the state has generally ended up with *more* than its contribution of county DSH revenues. The federal matching rate for DSH funds in California is about 50% (51.55% in 1998 [Huen (1999)]). Therefore, even if the state has recouped all of its DSH contribution, counties should be getting about $.50 cents for every DSH dollar received from the state and federal government. Between 1993 and 2000, the average county in our sample received annual DSH revenues of $26, in real per capita terms. Of that amount, $18 was returned to the state, leaving counties with 31% of the total DSH revenues initially transferred to them. This retention rate is consistent with the range of estimates found by Baicker & Staiger (2005) for states, such as California, that use intergovernmental transfers.

Even though the counties' rate of retaining DSH funds has been relatively low, the amount they have kept (on average, about $8 annually, in real per capita terms)

represents approximately 36% of the average annual revenues that counties received in Realignment revenues between 1991 and 2000. Therefore, both the DSH program and Proposition 99 legislation, with their substantial injections of new health funds at about the time Realignment began, may have influenced how counties responded to the availability of the transfer option. In the analysis that follows, we attempt to separate the impact of Realignment from the DSH program by using county DSH financial data available to us. We control for the influence of Proposition 99 because it exists throughout the entire period of our observation.

Data and measures

To conduct our analysis, we constructed a panel of data, consisting of 23 cross-sectional units, the counties in our sample, observed over a 12-year period (between fiscal years 1989 and 2000). We include only this subset of California's 58 counties because health spending, the key measure of our analysis, was generally not available for the other 35 counties. Prior to Realignment, counties were required to report to the state their annual AB8/MIA expenditures and revenues. With Realignment, this requirement was dropped. However, counties in the state must still report their expenditures in order to receive Proposition 99 funds (which, as mentioned, began in 1989).[3] For the full period of our analysis (1989–2000), the 24 largest counties, encompassing 85–90% of the state's population, annually reported their expenditures and revenues. So we had to omit the 34 other, smaller counties. In addition, we had to eventually drop one of the large counties, the city and county of San Francisco, because as a dually designated jurisdiction, its financial data is not comparable to other counties.

Health spending by the counties is divided into two general categories: medical and public health. Medical consists of all inpatient and outpatient services, as well as specialized skilled nursing, rehabilitation, and home health services. Public health includes environmental and civic health services (e.g. emergency and disaster, health promotion and education), laboratory services, and specialized services for chronic conditions and children. These two categories of health expenditures, annual financial MOE requirements, as well as the total of all intergovernmental revenues to the counties from the state, were obtained from the Office of County Health Services, located in the California Department of Health Services.

To obtain specific categories of intergovernmental revenues, we had to use two sources published by the State Controller's Office. To obtain mental health and social service revenues prior to Realignment, as well as the AB8/MIA health revenues (pre-Realignment), we used the *Counties Annual Report* (California State Controller, 1987–1992). Annual county property, sales, and non-Realignment vehicle license tax revenues were also obtained from this publication. The post-Realignment health, mental health, and social service revenues (the allocations from the sales tax and VLF), as well as the transfers that counties make among these services, were obtained from a separate, Realignment-only publication, *The Health and Welfare Realignment Allocation Report* (California State Controller, 1991–2000).

We obtained the amount of DSH revenues and intergovernmental transfers made back to the state, annually, by each hospital, from annual financial data collected on all California hospitals by the California Office of Statewide Health Planning and

[3] We could not use AB8/MIA reports before 1989 because of missing data for too many counties.

Development (OSHPD). Using these data, we calculated four DSH measures for each county: the amount of county DSH revenues, which go to county hospitals; the amount of non-county DSH revenues, which are DSH payments that go to private and non-county public hospitals; the amount of county intergovernmental transfers; and the amount of non-county intergovernmental transfers. We also obtained from the OSHPD data other control variables, which include annual Medi-Cal (Medicaid) and Medicare patient days, and the annual average number of beds, in the county.

To account for the mental health and social service characteristics of each county, we construct measures of the social service and mental health burden in each year. For social services, we use the average monthly Aid to Families with Dependent Children and the post-welfare- reform general assistance program in California, CalWORKS (AFDC/CalWORKS) caseloads, reported by the California Department of Social Services. For mental health services, we use the number of annual, unduplicated clients in the Client Data System from the California Department of Mental Health. Each of these measures is divided by the total county population, which we obtained from annual estimates published by the U.S. Census Bureau's Population Estimates Program.

In order to control for effect of prices on expenditures, we needed to create a health (for health and mental health services) and general (for social services) price variable. We used both a temporal and cross-sectional index of medical and general prices to create these price variables. The temporal index for health is the medical care portion of the Consumer Price Index for Western urban areas, produced by the United States Bureau of Labor Statistics (BLS), while the general temporal index is the California Consumer Price Index from the California Department of Industrial Relations. The health cross-sectional index is based on health care workers' wages, while the general cross-sectional index is based on all workers' wages, obtained from the BLS Covered Employment and Wages data. For each county and year, we calculated a weighted worker wage across all 3-digit medical and regular Standard Industry Codes (SICs), based on the number of workers in each SIC, with the median from among all the county weighted wages in each year (that is, from among all the counties in our sample) serving as the base for the index in that year. The health and general prices are simply the product of their respective cross-sectional and temporal price indices.

Table 2 presents the means and standard deviations of relevant measures in the pre- and post-Realignment periods, using our price and population variables to express them on a real, per capita basis. The first two rows in the table show the vast difference between how much counties spend on health services, in total, relative to how much is at their discretion. In the post-Realignment period, discretionary spending on indigent health services was, on average, about $2 per capita more than in pre-Realignment period. However, because of the change in calculating financial MOE under Realignment, counties actually spent much less of their own resources in the post-Realignment period than in the pre-Realignment period. This can be seen by looking at the difference between the first and third rows, what the state refers to as the *Net County Cost* (NCC), or how much county health spending exceeds state revenues. The NCC is comprised of the financial MOE (fifth row), plus any discretionary spending, or over-matching, by the county (numbers do not add correctly due to rounding). In the pre-Realignment period, these two components come entirely out of county resources. In the post-Realignment period, though, county resources account for discretionary spending and only that portion of financial MOE that exceeds Realignment revenues. Thus, in the pre-Realignment period, the average county annually spent about $39

Table 2 Descriptive statistics (per capita and inflation adjusted[a])

Variable	(1989–1990) 46 obs.		(1991–2000) 230 obs.	
	Mean	Std. dev.	Mean	Std. dev.
Total health expenditures	$156	78	$136	68
Total discretionary health expenditures	$7	8	$9	9
Total health revenues from the state	$118	69	$96	64
State AB8-MIA/realignment health revenues	$21	10	$22	5
Financial maintenance of effort (MOE)	$32	11	$32	$8
Total mental health expenditures	$37	9	$42	14
State (incl. realignment) mental health revenues	$23	9	$22	7
Total social service expenditures	$172	117	$130	96
State (incl. realignment) social service revenues	$128	71	$135	68
Health-mental health transfers	$0	0	$.10	.75
Health-social service transfers	$0	0	−$.12	1.04
Mental health-social service transfers	$0	0	−$.28	.80
County DSH revenues	$0	0	$26	32
County DSH intergovernmental transfers	$0	0	$18	24
Non-County DSH revenues	$0	0	$6	12
Non-County DSH intergovernmental transfers	$0	0	$2	6
County tax revenues	$216	57	$170	137
Per capita mental health clients	.012	.005	.013	.005
Per capita social service recipients	.023	.011	.024	.013
Annual Medi-Cal patient days per 10,000 pop.	1836	1842	1212	1232
Annual Medicare patient days per 10,000 pop.	2268	575	1697	803
Average number of beds per 10,000 pop.	33	13	24	8
N: Population of county	1,149,982	1789722	1,237,066	1845119
P_H: Health care price (for health and mental health services)	$223	28.18	$305	42.03
P_G: General price (for social services)	$195	35.86	$233	63.85

[a] In Year 2000 dollars

per capita, while in the post-Realignment period, the average county annually spent about $19. This difference accounts for the difference in total health expenditures between the two time periods, and if the counties in the post-Realignment period spent as much as they did in the pre-Realignment period, spending would have been about the same. Of course, in the post-Realignment period, this additional spending would have been at the discretion of the counties.

The middle of Table 2 shows, in the post-Realignment period, the average amount of transfers between health and mental health services, health and social services, and mental health and social services. Consistent with what we see in Table 1, the transfers amount to a very small portion of even discretionary spending (about 1%), and so obviously would not have played a significant role in county spending in the post-Realignment period. The next two rows show the county DSH revenues and

intergovernmental transfers, which, as previously discussed, show the substantial diversion of these funds back to the state. The two rows after that show the average DSH revenues and intergovernmental transfers of non-county hospitals. The retention rate of hospitals receiving these funds (67%) is much higher because this group includes private non- and for-profit hospitals, which do not pay intergovernmental transfers. District hospitals, which are non-county public hospitals, and relatively few in number, mainly account for the intergovernmental transfers in this group of hospitals.

It is important to note the sharp decline in social service spending between the pre- and post-Realignment periods (eighth row). As described by Hill (2001), concerns about under-funding mandated social service programs, as well as California welfare reform initiatives in the mid 1990s, resulted in a substantial reduction in the counties' fiscal responsibility for social service programs. Within 2 years of Realignment's passing, new legislation effectively rolled back the cost-share ratios to pre-Realignment levels, while welfare reform brought new financial benefits to the counties, further reducing the financial burden, as well as the influence of Realignment, in this area (Hill, 2001).

Determinants of using the transfer option

Model

To identify the determinants of counties' use of the transfer option under Realignment, we estimate a logistic regression model of the likelihood a county makes a transfer. When a county makes a transfer, it applies for only one year, and has no bearing on future Realignment revenues (Hill, 2001). Therefore, for each county, i, in year t, we estimate:

$$\begin{aligned}\Pr(T_{it}=1) = g\{&\alpha_1 \text{HIGH\_HR}_{it} + \alpha_2 \text{HIGH\_MHREV}_{it} + \alpha_3 \text{HIGH\_SSREV}_{it} \\ &+ \alpha_4 \text{HIGH\_MHBURDEN}_{it} + \alpha_5 \text{HIGH\_SSBURDEN}_{it} \\ &+ \alpha_6 \text{HIGH\_HEXP89\_90}_{it} + \alpha_7 \text{LOW\_DSH}_{it} \\ &+ \alpha_8 \text{HIGH\_DSH}_{it} + \alpha_9 \text{HIGH\_MOE}_{it}\}. \end{aligned} \quad (1)$$

The function, g, is the logistic cumulative distribution function, and T_{it} is an indicator of a transfer. To facilitate interpretation of the estimated odds ratios, we transform most of the continuous explanatory variables of the model to binary variables, indicating whether the per capita (and in the case of monetary measures, inflation adjusted) value of the variable for that county, in that year, is above or below the sample median in that year. If above the median, the variable is set equal to 1. Thus, all of the variable names are prefaced with "HIGH," indicating above the median. The exception to this convention is the variable for the amount of real, per capita DSH payments each *county* receives (excluding DSH payments in the county that go to *non-county* hospitals). For this variable, we create a three-value categorical variable indicating whether a county receives no DSH payments, below (LOW), or above (HIGH) the median value of those counties receiving any DSH payments (with the omitted category being no DSH payments). Also included in the specification of the two equations in (1), but not shown, are time dummy variables for each year. Although Realignment began in 1991, data on transfers is available only as far back as 1993.

Hypotheses

The inclusion of the covariates in this model are based on hypotheses we pose regarding the purpose of the transfer option, which is to allow counties to reallocate funds among the three services areas in ways more reflective of local preferences. In addition, we pose additional hypotheses to account for specific influences on health spending, such as the availability of DSH payments, and more importantly, the conversion of indigent health funds from non-fungible to fungible county resources due to the change in financial MOE requirements. Indeed, our main hypothesis is that the transfer option was so little used by counties primarily because the change to the MOE requirement for Realignment health revenues allowed counties to effectively reallocate the full amount of these funds to other uses, making the transfer option somewhat superfluous. This would have been especially true for counties receiving relatively high per capita Realignment health revenues because it would mean a higher level of fungible resources available to the county. We predict, therefore, a decrease in the odds of a transfer in counties receiving above-median health revenues relative to counties receiving below-median health revenues (HIGH_HR: $\alpha_1 < 1$).

As discussed, Realignment more dramatically altered the structure of mental health and social services than health services. For mental health services, counties took on full financial risk of admitting patients to hospitals under Realignment, and as noted earlier, evidence from Scheffler et al. (2000) show relatively more use of outpatient care as a result. Therefore, we predict that counties with above-median mental health revenues per capita to have had more funds available to transfer, due to cost savings, into other services (HIGH_MHREV: $\alpha_2 > 1$). For social services, counties saw an initial increase in their cost share for these programs, although as mentioned, they were largely reversed within a couple of years of the enactment of Realignment, and welfare-reform initiatives further reduced the financial burden on counties for these services. Nonetheless, counties continued to receive Realignment funds for social services. Therefore, we predict counties with above-median per capita social service revenues to have had more funds available for transferring into other services in the post-Realignment period, and so more likely to make a transfer (HIGH_SSREV: $\alpha_3 > 1$).

In addition to the magnitude of the Realignment revenues received, the magnitude of the preferences of counties for each type of service would also potentially influence use of the transfer option. Indeed, this was the primary purpose of the transfer option: to reallocate Realignment funds in a way more reflective of local preferences. To capture the service-preference characteristics of each county, we calculated the number of mental health clients (MHBURDEN) and social service recipients (SSBURDEN) per capita using data, as mentioned, from the state's departments of Mental Health and Social Services. Because data on the numbers of recipients of indigent health care were not available for all years of our analysis, we created a proxy for the indigent health care preferences of each county by using real per capita total health expenditures in fiscal years 1989–1990 (HIGH_HEXP89_90), the two years prior to Realignment. By using years in the past, we attempt to reduce the likelihood of introducing a potentially endogenous variable to the model.

For each of these three measures, we expect above-median counties to more likely engage in resource reallocation to meet local preferences, implying an increased likelihood of using the transfer option ($\alpha_4, \alpha_5, \alpha_6 > 1$). Alternatively, these measures may be proxies for the size and relative efficiency of the administrative offices in

each county. As mentioned, a transfer decision applies for only one year. In addition, county officials must first document at a public meeting any pending transfer decision (Hill, 2001). Therefore, counties with larger and more efficient administrative staff may have more streamlined processes for obtaining approval to make a transfer, which would increase the likelihood of one occurring.

Two more hypotheses relate specifically to the fiscal situation for indigent health services. First, counties receiving above-median per capita DSH payments are perhaps less likely to need to reallocate funds into health from the other two service areas. Therefore, we predict the likelihood of a transfer to fall as the level of DSH payments rise ($\alpha_7, \alpha_8 < 1$). In addition, the state reports that some counties have used the transfer option to fulfill their MOE obligation, that is, to meet that portion of MOE above the level of Realignment health revenues they receive from the state. A county can do this by making a transfer *out of* health services. When that occurs, MOE for the county is reduced by the amount of the transfer (DHS, 1999). Therefore, for the portion of MOE in excess of Realignment revenues (which we have calculated from the data), we would expect above-median levels to increase the likelihood of a transfer out of health services ($\alpha_9 > 1$).

Changes in odds and predicted probabilities of using the transfer option

Table 3 presents the estimated factor change in odds, as well as the predicted probability of making a transfer for below-and above-median values of the corresponding explanatory variable (holding other covariates at the sample mean). We estimated the model computing robust variance matrices to correct for possible correlation of observations within the same county over multiple years. Significance of results is at the 5%, two-tail level. In addition to estimating the probability of making any transfer, we estimated the same specified model for each type of transfer: health-mental health, health-social services, and mental health-social services. Because the results of these estimations are generally similar to the overall model, we place them in the appendix (Table 5).

Table 3 organizes the explanatory variables into two groups: state fiscal, which includes the categorical variables for Realignment revenues (health, mental health, and social service), DSH payments, and financial MOE; and county service characteristics, which include the service-preference characteristics of counties. As predicted, counties with above-median Realignment health revenues are much less likely to make a transfer than below-median counties (OR = 0.19). While the predicted probability of making a transfer for a county above the median is about 20%, the probability of a county below the median is nearly 1. These results are highly significant ($P < .001$), and clearly show the dampening influence of the change in matching-funds rate requirement on counties' need to use the transfer option. This conclusion is reinforced by this result occurring only for transfers involving Realignment health revenues (see Table 5 in appendix).

Our results also show that counties with above-median mental Realignment health revenues were three times more likely (OR = 3.12) to make a transfer than below-median counties. Counties with above-median Realignment social service revenues were almost twice as likely (OR = 1.85) to make a transfer, although the result is insignificant. Interestingly, in the individual logistic regressions specific to social services, the odds of a transfer in counties with above-median social service revenues are very high and significant (again, see Table 5 in appendix). Thus, there is evidence that the

Table 3 Logistic of realignment transfers (1993–2000)

	Odds ratio	*P*-value	Predicted probability
State Fiscal:			
LOW_HR	–	–	.98
HIGH_HR	.19	.00*	.19
LOW_MHR	–	–	.23
HIGH_MHR	3.14	.04*	.71
LOW_SSR	–	–	.30
HIGH_SSR	1.85	.23	.55
No DSH Payments	–	–	.90
LOW_DSH	.24	.04*	.21
HIGH_DSH	.49	.23	.44
LOW_MOE	–	–	.57
HIGH_MOE	.55	.22	.31
County Fiscal:			
LOW_TOTTAX	–	–	.42
HIGH_TOTTAX	.97	.94	.41
County service characteristics:			
LOW_HEXP89_90	–	–	.17
HIGH_HEXP89_90	5.42	.01*	.93
LOW_MHBURDEN	–	–	.46
HIGH_MHBURDEN	.81	.60	.37
LOW_SSBURDEN	–	–	.22
HIGH_SSBURDEN	3.40	.03*	.74
Time dummies	Yes		
Pseudo R^2	.205		
Sample size	184		
Proportion of sample making transfers	.26		
Predicted probability (all covariates at mean)	.41		

* Significant at the 5%, two-tail, level

particular changes Realignment brought to mental health services, in terms of creating cost-saving incentives, may have had some influence on counties' use of the transfer option. Changes to social services may also be reflected in the use of the transfer option, although as discussed, due to unrelated welfare reforms and the actual rolling back of cost-share increases under Realignment.

Among the health-specific state fiscal variables, the probability of a transfer, as predicted, generally decreases as the per capita level of DSH payment rises, although only is the difference significant between counties with no and those with low DSH payments. This result does suggest, though, a reduced need to transfer funds from mental health and social services in counties that receive health funds from other sources. Contrary to expectations, high financial MOE counties have a lower predicted probability of making a transfer than low financial MOE counties, although the result is statistically insignificant.

Looking at the next category of explanatory variables, the service-preference measures, we find in two of the three cases that, as expected, counties with high burdens are more likely than low-burden counties to make a transfer. In the other case, the odds of a transfer in above-median mental health counties decrease, although

the result is insignificant. As hypothesized, the increased odds in counties with more per capita service recipients may reflect the relatively strong preference of citizens to fund these services, or greater efficiency and capability of making transfers in counties with presumably large administrative offices.

Overall, the results meet with most of our predictions. For our main prediction, we find that counties with high Realignment health revenues were much less likely than counties with low health revenues to use the transfer option. In addition, counties with either high Realignment revenues, or with a high preference for providing the realigned services, were more likely to use the formal transfer option under Realignment.

The impact of realignment on county discretionary health and mental heath spending

Model

While the results of the analysis of the transfer option mostly fit with our hypotheses, it is important to keep in mind the very small impact the transfer option has had on overall, as well as discretionary, county health spending in the post-Realignment period (as a reminder, see Table 2). With the exception of the effect from the reduced matching-funds rate for Realignment health revenues, most of the other hypotheses and results make less sense in light of the infrequent and very small magnitudes of the transfers. Therefore, in this section, we present an analysis that more directly examines the relationship between Realignment and county health spending, focusing mainly on the effect of the reduced matching-funds rate for health services. To have a more comprehensive view of the impact of this change, we also examine the relationship between Realignment and spending on mental health services. Because of the diminished impact of Realignment on social services, they are omitted from this analysis.

The primary outcome of interest is annual, real, per capita discretionary spending on county health services for the indigent. Our framework, based on Rubinfeld (1987), takes the perspective of county officials, who we assume are driven by political competition (either because they are elected officials or are supervised by elected officials) to adhere to the preferences of the median voter. While most voters in a county do not receive these health services, we assume they gain utility from the provision of these services to the minority who do. We focus on discretionary spending because, obviously, this is the portion of total health spending controlled at the county level. Therefore, our empirical estimation is a county-level specification based on a median-voter willingness to pay for indigent health services:

$$\begin{aligned} H_{\mathrm{it}} = {} & \beta_0 + \beta_1 \mathrm{R_t} + \beta_1 \mathrm{HR_{it}} + \beta_2(\mathrm{R_t} * \mathrm{HR_{it}}) + \beta_3 \mathrm{TOTTAX_{it}} \\ & + \beta_4(R_{\mathrm{t}} * \mathrm{TOTTAX_{it}}) + \boldsymbol{\beta_5}(\mathrm{TOTTAX_{it}} * \boldsymbol{CF}_{\mathrm{it}}) \\ & + \boldsymbol{\beta_6}(R_{\mathrm{t}} * \mathrm{TOTTAX_{it}} * \boldsymbol{CF}_{\mathrm{it}}) + \beta_7 t + u_{\mathrm{i}} + e_{\mathrm{it}}. \end{aligned} \tag{2}$$

The dependent variable, H_{it}, is real per capita discretionary spending on indigent health services in county i at time *t*. Because we focus on discretionary spending, the right-hand side of (2) includes only county-level revenue sources that can be used for that category of spending. The primary source is total tax revenue (TOTTAX). TOTTAX is the sum of three annual county-level taxes: property tax, county-sales

tax, and county VLF. The latter, license fees, are collected at the county level and are separate from the statewide VLF that make up a portion of the Realignment revenues. In addition, we include the revenues for indigent health services (HR) from the state because, in the post-Realignment period, they represent additional, fungible sources of funds that the county can use for health services, or anything else. To capture the significance of these funds in the post-Realignment period, we interact HR with a binary Realignment dummy variable, *R*, which reflects the post-Realignment time period.

The Realignment dummy is also interacted with TOTTAX, which is separately interacted with a vector of county fiscal variables (***CF***). ***CF*** contains a set of binary variables, set equal to 1 depending on whether they are above or below the median value in a given year, that reflect various fiscal characteristics of the county. Most of these variables were used in the previous section, and include: LOW_DSH (county receiving below median DSH payments), HIGH_DSH (county receiving above-median DSH payments), HIGH_MHBURDEN (county with above-median mental health clients per capita), and HIGH_SSBURDEN (county with above-median social service clients per capita). We also introduce a binary variable in ***CF*** called NC_DSH, which is set equal to 1 if there are DSH revenues received by non-county hospitals in the county. Three additional variables included as control variables in ***CF*** are: HIGH_MCDDAYS (county with above-median annual Medi-Cal patient days), HIGH_MCRDAYS (county with above-median annual Medicare patient days), and HIGH_BEDS (county with above-median average number of hospital beds). The interaction of TOTTAX with each of these variables measures the marginal propensity to spend on indigent health services in counties with these characteristics. The additional interaction of *R* with these interacted terms captures the change in the propensity to spend in the post-Realignment period.

The remaining terms on the right-hand side of (2) are a linear time trend, *t*, a county-specific error term, u_i, and a general random error term, e_{it}, which is assumed to be uncorrelated with the observed explanatory variables. We estimate (2) with *fixed* effects, in which the unobserved county-specific characteristics that do not change over time, u_i, are "swept away" in estimation. This model provides the least restrictive and most robust estimates for panel data (Wooldridge, 2002, p. 266).

For our analysis of mental health spending, we add two additional variables to the right-hand side of (2): mental health revenues from the state (MHR), and the interaction of this variable with the realignment dummy (R). In addition, the number of observations is reduced by 23 (the number of counties in our sample) because data on mental health spending at the county level was not available for fiscal year 2000–2001.

Hypotheses: "fungibility" versus "flypaper effects"

As discussed in the introduction, we apply two hypotheses from the literature on intergovernmental transfers: the "fungibility" and the "flypaper effects" hypotheses. To provide some background on these two ideas, the theory of the median voter, the framework for the empirical model expressed in (2), states that public decisions, and in particular expenditure decisions on public goods, will reflect the preferences of the median-income individual in the jurisdiction. Moreover, Bradford and Oates (1971) showed that expenditure on a public good from a governmental lump-sum grant should be the same as an equivalent increase in the median voter's personal income. However, over time, empirical analyses have consistently rejected

this prediction, with intergovernmental aid tending to have a much greater positive impact on public spending than an equivalent increase in personal income. This phenomenon has been described, by Fisher (1982) and others, as the "flypaper effect": intergovernmental aid sticking where it hits. One common explanation for flypaper effects, as described by Winer (1983) and Grossman (1990), is that the median voter suffers from "fiscal illusion," that is, because of the separation of taxing and spending, which is a prerequisite for intergovernmental aid, the median voter is led to believe that a grant associated with a public good is partly financed (i.e. subsidized) by voters outside of the jurisdiction. This "illusion" leads to a substitution as well as income effect, which accounts for the additional spending from a lump-sum increase in intergovernmental aid.

The theory of flypaper effects has, however, been challenged over the years by proponents of the "fungibility" hypothesis (McGuire, 1975). For instance, Zampelli (1986) estimates that 40–70% of federal aid to large cities intended for social and urban support services is converted to non-specific general revenues, and finds no evidence of flypaper effects. One of the primary mechanisms by which aid is converted to fungible local resources is through the diversion of local tax revenue away from the targeted good (McGuire, 1978).

In the context of Realignment, we have the opportunity to test these two competing hypotheses by examining how counties generally responded to indigent health funds becoming non-targeted, fungible resources as a result of the change to the MOE requirements in the post-Realignment period. There are actually three conditions we test: perfect flypaper effects (Zampelli, 1986), normal flypaper effects, and fungibility. The tests are based on the expected signs and magnitudes of β_2, the coefficient on the interaction of HR with the Realignment dummy, β_3, the coefficient on TOTTAX, and β_4, the coefficient on the interaction of TOTTAX with the Realignment dummy. With perfect flypaper effects, we should see all of the additional fungible resources spent on indigent health services ($\beta_2 = 1$), just as they were prior to Realignment (but when the state mandated revenues be spent that way). For normal flypaper effects, we should see the non-targeted intergovernmental revenues (i.e. health Realignment revenues) having a greater impact on health spending than regular county tax revenue in the post-Realignment period ($\beta_2 > [\beta_3 + \beta_4]$). In either of these two cases, we should see no evidence of county tax revenue being diverted away from health services following Realignment ($\beta_4 \geq 0$). On the other hand, a diversion of post-Realignment tax revenue away from health services ($\beta_4 < 0$), and no evidence of flypaper effects ($\beta_2 = 0$), would provide clear support for the fungibility hypothesis.

The interaction of TOTTAX with the county fiscal (***CF***) variables in the post-Realignment period further tests for evidence supporting either flypaper effects or the fungibility hypothesis. While we see little use and impact of the formal transfer option under Realignment, which tends to argue for flypaper effects, it may be that counties, because of the effective change in the financial MOE for health services, informally reallocated resources among the three service areas by changing their propensity to spend out of local tax revenue. Therefore, we test for any change in the propensity to spend on indigent health services in counties with high mental health and social service burdens, which we use as measures of the intensity of county preferences for these services. Also, to capture, and to separate from Realignment, the effects of the DSH program (which effectively began the same year as Realignment), we look to see how the propensity to spend on indigent health services in counties with varying levels of per capita DSH payments, including DSH payments to non-county

hospitals, has changed. Coefficients significantly different from zero (and likely negative) on these interaction terms would support the fungibility hypothesis. The other ***CF*** variables interacted with TOTTAX, reflecting the health service characteristics of the county (Medi-Cal and Medicare patient days, and average number of hospital beds) are included as control variables.

Results

Table 4 presents the results of our estimation of (2), with the estimation of discretionary health spending in the first column and the estimation of mental health spending in the second column. All inferences are significant at the 5%, two-tail level. Statistical significance is based on a robust variance estimator to provide results that are valid in the presence of heteroscedastic and serially correlated errors.[4] The results also reflect the inclusion of 22 (excluding one) county dummy variables to account for county fixed effects. As seen by the R^2 value, the included covariates explain about half of the variation in real per capita indigent health spending (.507), and about 80% of the variation in mental health spending, which are comparable to the explanatory power of similar county-level analyses by Baicker & Staiger (2005).

Table 4 organizes the covariates into state and county fiscal categories. In the state fiscal group for discretionary health spending, the coefficient on the Realignment dummy (R) is positive but insignificant. However, the coefficient on the main intergovernmental health-revenue variable (HR) is negative and significant (−.371), while the interaction of HR with the Realignment dummy is positive and significant (.374), with a magnitude in absolute terms practically identical to the main variable. The first result shows that, prior to Realignment, county discretionary health spending was inversely related to the level of AB8/MIA state revenues, and so tended to offset the level of county health spending mandated by the state. The second result shows, however, that following Realignment there is a positive propensity to spend on discretionary health services out of the fungible Realignment health revenues.

Because the propensity is less than 1, the increased discretionary spending does not fully make up for the reduction in mandatory spending caused by the reduced health-funds matching rate in the post-Realignment period. Thus, we do not find evidence of perfect flypaper effects. However, we have evidence of normal flypaper effects. The positive effect from HR in the post-Realignment period is greater than the overall effect of county tax revenue (TOTTAX), for which a dollar increase tends to raise health spending by $.17, with an insignificant decrease (5 cents) in the post-Realignment period. The difference in the effect between HR and TOTTAX, indicating a marginal 20-cent increase in spending from a $1 increase in Realignment health revenues, falls between previous estimates of 10 and 30 cents for the "fiscal illusion" effect (Fisher, 1982). Nonetheless, the diversion of the remaining portion of that dollar, $.63, indicates that two-thirds of what used to be spent on health services, prior to Realignment, was being spent elsewhere in the post-Realignment period. On that basis, it is difficult to reject the fungibility hypothesis.

The dual interpretation of the results can perhaps be reconciled, though, by looking at the combined effect of HR in the post-Realignment period, on both indigent health and mental health service spending. The coefficient on the interaction of HR with the

[4] To test for serial correlation, we ran an ordinary least squares regression of the residuals from (2) against one-, two-, and three-period lags to obtain estimates of correlation coefficients. Results indicate first-order serial correlation in the errors. All estimations were conducted using Stata/SE 8.0.

Table 4 Real per capita expenditure, 1989–2000

Independent Variables (Real, Per Capita):	Discretionary health		Mental health	
	Coef.	Robust std. err.	Coef.	Robust std. err.
Independent variables:				
Constant	−16.995	7.300*	3.744	8.167
State fiscal:				
Realignment dummy(*R*)	4.004	5.803	−16.406	6.597*
HR	−.371	.111*	−.031	.153
R*HR	.374	.175*	.647	.216*
MHR	N/A	N/A	.308	.140*
R*MHR	N/A	N/A	−.339	.171*
County fiscal:				
TOTTAX	.174	.038*	.058	.045
TOTTAX×No DSH Payments	–	–	–	–
TOTTAX×LOW_DSH	−.063	.024*	−.031	.030
TOTTAX×HIGH_DSH	−.153	.030*	−.060	.031
TOTTAX×NC_DSH	.014	.027	.036	.027
TOTTAX×HIGH_MHBURDEN	−.004	.013	.019	.018
TOTTAX×HIGH_SSBURDEN	.018	.021	−.012	.012
TOTTAX×HIGH_MCDDAYS	.003	.012	.017	.012
TOTTAX×HIGH_MCRDAYS	−.020	.012	−.006	.011
TOTTAX×HIGH_BEDS	.010	.010	.016	.009
County Fiscal Interacted with Realignment Dummy (R):				
TOTTAX	−.046	.030	.015	.036
TOTTAX×No DSH Payments	–	–	–	–
TOTTAX×LOW_DSH	−.013	.014	−.005	.018
TOTTAX×HIGH_DSH	.039	.016*	−.030	.018
TOTTAX×NC_DSH	−.051	.017*	.008	.018
TOTTAX×HIGH_MHBURDEN	−.013	.012	−.009	.019
TOTTAX×HIGH_SSBURDEN	.004	.018	.031	.014*
TOTTAX×HIGH_MCDDAYS	−.001	.014	−.020	.014
TOTTAX×HIGH_MCRDAYS	.031	.013*	−.008	.012
TOTTAX×HIGH_BEDS	−.003	.010	.004	.010
Linear trend	1.028	.243*	3.051	.270*
County dummies	Yes		Yes	
R^2	.507		.821	
Sample size	276		253	

* Significant at the 5%, two-tail, level

Realignment dummy in the mental health equation is .647, and significant, indicating that all of the remaining funds from Realignment health revenues were spent on mental health services in the post-Realignment period. Thus, if we look at health spending from a broader perspective, by including mental health services, we see that counties, on average, spent all of the Realignment revenues on their intended target. From this perspective, our results support not only normal, but actually perfect, flypaper effects.

We can look further for evidence supporting either flypaper effects or fungibility by examining the interaction of TOTTAX with the county fiscal variables (***CF***). In the interaction of TOTTAX with the county fiscal (CF) variables (under **County Fiscal**), we see, first, that counties with any DSH payments had reduced spending on indigent health services as tax revenues increased in the pre-Realignment period. This undoubtedly reflects a relatively high financial burden on these counties as result of having large indigent and Medicaid-eligible populations (and, hence, why these

counties would later receive DSH payments). In the post-Realignment period, we see the propensity to spend out of tax revenue decrease in the below-median DSH payment counties, although the estimated coefficient is insignificant. However, the propensity to spend increases by about 4 cents in the above-median DSH payment counties. This additional spending would, of course, only add to the high per capita DSH payments these counties were receiving in the post-Realignment period. We do see that in counties that receive non-county DSH payments (DSH payments that go to private and non-county public hospitals), the propensity to spend on indigent health services falls by about 5 cents in the post-Realignment period, and is significant. This reduction likely reflects, however, indigent patients migrating from county to non-county hospitals as these hospitals became more willing to serve indigent and Medicaid populations with the advent of the DSH program (Duggan, 2000).

Overall, the effect of the DSH program lends further support to flypaper effects in that the program has perhaps enabled counties to divert more of the fungible health Realignment revenues to other uses, such as mental health services, without sacrificing the level of support for health services in the post-Realignment period. The small positive and significant coefficient on the post-Realignment interaction of TOTTAX with HIGH_DSH suggests that, in the absence of the DSH program, these counties would have perhaps spent even more of their fungible Realignment health revenues on indigent health services. As further support for this suggestion, under mental health services, the positive and significant coefficient on the interaction of TOTTAX and HIGH_SSBURDEN in the post-Realignment period indicates an increased level of support for services in counties that, in addition, receive financial support for these services through relatively high intergovernmental aid.

The results of our analysis show, therefore, more support for the notion of flypaper effects than for fungibility, or at least for the notion of fungibility that implies a diversion of intergovernmental aid away from targeted programs. To the extent we observe fungibility of resources, we observe counties reallocating resources within the bounds established by the Realignment legislation. However, rather than achieving this reallocation through the formal transfer option, it is mainly achieved through the less formal, but less restrictive, reallocation of the fungible Realignment health revenues.

To check the robustness of our results, and in particular to assure ourselves that the coefficient on the interaction of intergovernmental revenues (HR) and the Realignment dummy (R) can be attributed to decentralization, we arbitrarily set Realignment to begin in 1993 (instead of 1991). In that specification of the model, the coefficient on the interaction term for indigent health services becomes very small (.015) and insignificant (s.e.: .174), indicating that the effect of the interaction is due to Realignment. We also estimate the model over a shorter time period, 1989–1994, and find very similar results, although these results indicate that the diversion of Realignment health revenues to mental health services intensifies over time (the coefficient on the interaction of HR and R for mental health services is .346, while that for indigent health services remains relatively unchanged). Thus, there may have been some diversionary spending in the first few years into social services, before changes took place that minimized the impact of Realignment in this area. In addition, we estimate the model with non-linear-trend terms, which we find to be insignificant (i.e. controlling for linear trends is sufficient).

Discussion

This paper is the first to assess the impact of government decentralization in California on health spending for the uninsured, taking a more comprehensive look than previous studies at the law known as Realignment. While health services did not undergo the same kinds of structural changes that took place in the other affected areas, mental health and social services, Realignment gave the state's counties inordinate financial flexibility by effectively reducing their matching-fund rate for indigent health services by more than half. As a result, counties made little use of the formal transfer option under Realignment. In our main finding analyzing its use, counties with high Realignment health revenues were 80% less likely than low-revenue counties to use the transfer option, reflecting the impact of the change in the matching-funds rate. In addition, in our application and testing of the longstanding "flypaper effect" and "fungibility" hypotheses, we find more evidence in support of flypaper effects. What this means is that, while counties in the post-Realignment period did divert about two-thirds of targeted health revenues away from their intended purpose, the diverted funds went into other services (mainly mental health) that are part of the package of realigned programs benefiting low-income and medically indigent populations. Therefore, despite having greater authority and financial flexibility following Realignment, counties tended to demonstrate the same level of commitment and support for providing these services that existed prior to decentralization.

Two questions left outstanding from our analysis are: Why did spending on mental health services out of state mental health revenues become negligible following Realignment, and what accounts for the apparent downward shift in spending on these services, as indicated by the negative and significant coefficient on the Realignment dummy? The answers stem from another, non-Realignment factor that specifically affected county spending on mental health services in the post-Realignment period. Hill (2001) reports that several mental health programs became eligible for Medi-Cal (Medicaid) funding in the years following Realignment. As a result, there was a decrease in county spending on mental health services, overall (which is indicated by the negative and significant coefficient on the Realignment dummy in Table 4). However, with the conversion of these programs to Medi-Cal services, counties began to use their mental health Realignment revenues to effectively match federal spending on these programs. This would explain the apparent reduction in spending on mental health services from Realignment revenues, because the revenues were now going toward services that were reclassified as state Medi-Cal, as opposed to county-based, mental health services.

Finally, it is worth comparing our results to the recent study by Baicker & Staiger (2005) on the questionable behavior of state governments in utilizing matching grants to provide health services for the poor. In one particular way, there is a striking similarity between the two studies, in that a $1 increase in intergovernmental transfers to counties leads to about $.35 (in one of their findings) in actual spending on these services. That, however, is where the similarities end. In their case, the remaining $.65 (as our data also show) is money returned to the state that seems to more than compensate it for its (approximately) $.50 matching contribution with the federal government. In our case, the remaining funds are put into other safety-net services for the poor. Also, as just mentioned, counties in California (as opposed to the state) have taken full advantage of matching federal Medicaid dollars in expanding health and mental health services for the poor and uninsured. What can we conclude from these

differences? Well, perhaps in the framework of our federalist system, the state-level of government is "neither fish nor fowl": it lacks the redistributive power and policy focus of the federal level, while it also does not have the same proximity and commitment to local populations of county and lower levels of government. Therefore, in the continuing debate over the merits and structure of the new federalism, it may be important to not cast all sub-levels of government in the same light.

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Appendix

Table 5 Logistic of health transfers (1993–2000)

Independent variables (real, per capita):	Health-mental health		Health-social services		Mental health-social services	
	Odds ratio	*P*-value	Odds ratio	*P*-value	Odds ratio	*P*-value
State fiscal:						
HIGH_HR	.16	.002*	.13	.002*	1.29	.775
HIGH_MHR	1.94	.288	1.64	.433	7.24	.083
HIGH_SSR	.40	.156	20.50	.000*	20.37	.004*
No DSH Payments	–	–	–	–	–	–
LOW_DSH	.28	.039*	.39	.206	1.82	.509
HIGH_DSH	.57	.383	.08	.001*	2.12	.363
HIGH_MOE	.28	.026*	2.68	.157	1.76	.422
County service characteristics:						
HIGH_HEXP89_90	5.41	.001*	1.99	.299	.49	.466
HIGH_MHBURDEN	2.36	.052	.55	.221	.20	.017*
HIGH_SSBURDEN	1.44	.532	4.28	.017*	18.40	.051
Time dummies	Yes		Yes		Yes	
Pseudo R^2	.155		.291		.365	
Sample size	184		184		184	
Proportion of sample making transfers	.14		.12		.12	

* Significant at the 5%, two-tail, level

References

Baicker, K., & Staiger, D. (2005). Fiscal Shenanigans, targeted federal health funds, and patient mortality. *The Quarterly Journal of Economics, 120*(1), 345–386.

Bradford, D., & Oates, W. (1971). Towards a predictive theory of intergovernmental grants. *American Economic Review, 61*, 440–448.

California Department of Health Services (1999). *Briefing paper on county financial maintenance of effort and county health services programs*. Sacramento, CA: Office of County Health Services and Local Public Health Assistance.

California Legislative Analyst's Office (1993). Local sales taxes—what role can they play in the 1993–94 state budget? Sacramento, CA.

California Legislative Analyst's Office (1995). Background information on the health care 'safety net'. Sacramento, CA. Available online (accessed on 5/25/04): http://www.lao.ca.gov.handouts/pre_1999/ho112895.html.

California Legislative Analyst's Office (2002). Cal Facts: California's economy and budget in perspective. Sacramento, CA. Available online (accessed on 4/05/05): http://www.lao.ca.gov/2002/cal_facts/2002_calfacts_pdf_toc.html

California State Controller (1987–1992). Counties annual report. Sacramento, CA.

California State Controller (1991–2000). Health and welfare realignment allocation report. Sacramento, CA.

Duggan, M. (2000). Hospital ownership and public medical spending. *The Quarterly Journal of Economics, 115*(4), 345–386.

Fisher, R. C. (1982). Income and grant effects on local expenditure: The flypaper effect and other difficulties. *Journal of Urban Economics, 12*, 324–345.

Grossman, P. J. (1990). The impact of federal and state grants on local government spending: A test of the fiscal illusion hypothesis. *Public Finance Quarterly, 18*(3), 313–327.

Hill, E. G. (2001). *Realignment revisited: An evaluation of the 1991 experiment in state-county relations*. Sacramento, CA: California Legislative Analyst's Office.

Huen, W. (1999). *California's disproportionate share hospital program: Background paper*. Oakland, CA: California Healthcare Foundation. Available online (accessed on 12/20/04): http://www.chcf.org/documents/policy/dsh.pdf

McGuire, M. (1975). An econometric model of federal grants and local fiscal response. In W. E. Oates (Ed.), *Financing the new federalism*. Baltimore: The Johns Hopkins University Press.

McGuire, M. (1978). A method for estimating the effect of a subsidy on the receiver's resource constraint: With an application to U.S. Local Governments 1964–1971. *Journal of Public Economics*, *10*(1), 25–44.

National Health Law Program (1997). California state and local responsibility for indigent health care. Available online (accessed on 3/24/02): http://www.healthlaw.org/pubs/1997calindigentcare.html.

Rivlin, A. M. (1991). Distinguished lecture on economics in government: Strengthening the economy by rethinking the role of federal and state governments. *The Journal of Economic Perspectives*, *5*(2), 3–14.

Rubinfeld, D. L. (1987). The economics of the local public sector. In A. J. Auerbach & M. Feldstein (Eds.), *Handbook of public economics*, Vol. II. Amsterdam: North-Holland.

Scheffler, R. M., Wallace, N. T., Hu, T.-W., Garrett, A. B., & Bloom, J. R. (2000). The impact of risk shifting and contracting on mental health service costs in California. *Inquiry*, *37*, 121–133.

Winer, S. L. (1983). Some evidence on the effect of the separation of spending and taxing decisions. *Journal of Political Economy*, *91*, 126–140.

Winston, P. (2002). *Welfare policymaking in the states: The devil in devolution*. Washington, DC: Georgetown University Press.

Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*. Cambridge, MA: The MIT Press.

Zampelli, E. M. (1986). Resource fungibility, the flypaper effect, and expenditure impact of grants-in-aid. *The Review of Economics and Statistics, 68*(1), 33–40.