The Community Impact of Consolidating Long-Term Inpatient Care at a Single State Hospital

Nancy Wolff, Ph.D.

Objective: **A community impact model was used to estimate how consolidation of all long-term inpatient care at one state mental hospital affected the town in which the hospital was located.** ***Methods:*** **Qualitative and quantitative methods were used to measure objective and subjective impacts of the hospital's expanded role. Objective impacts included employment, retail sales, and use of local services such as police, welfare, and education. Subjective impacts included residents' perceptions of safety. Data were obtained from hospital records, service providers, merchants, residents, and persons living on the streets or in shelters.** ***Results:*** **Overall, the policy had a positive net impact on the community, estimated at roughly $4 million during the 18 months after implementation. Nearly $1 million was a direct payment from the state in lieu of taxes for the property occupied by the hospital. The hospital's payments to businesses in the town increased 10 percent. The number of hospital employees increased by 61 percent, to 1,336. The number of local residents working in the hospital grew from 200 to 320, and the proportion of the hospital's annual payroll paid to local residents increased from 14 to 24 percent. Local service use did not increase, and no change was noted in the crime rate. More patients were discharged to other towns than were admitted from the host town. Eighty percent of the residents surveyed said the town had either improved or had not changed.** ***Conclusions:*** **The benefits brought by the consolidation are likely to be sustained in the long run if the state continues the current rate of payments to the community and the hospital continues its policy of discharging patients to the town where they resided before hospitalization. (*Psychiatric Services* 51:801–806, 2000)**

Little is known about how state hospital consolidation policies affect local communities (1). What is known pertains to the closure of state hospitals (2,3). Without comprehensive information on both the costs and the benefits of these policies, debates about the location and expansion of inpatient behavioral health facilities tend to polarize, with state policy makers arguing the benefits consolidation will bring to the community and the community arguing its impressions of costs.

The study reported here examined the impact on the community of a state action implemented on July 1, 1995, that consolidated all long-term behavioral health services in the state at a single state hospital. The objective of the study was to estimate how the welfare of a community was affected by the expansion of a state hospital. An economic model of costs and benefits, based on the comprehensive accounting framework developed by Weisbrod (4), was used to measure economic welfare. Information about costs and benefits for the model was obtained from extensive interviews with state officials and community representatives and from reviews of related court records, public hearings, and newspaper accounts.

The model was designed to measure two types of impact. First, it explored how changes in the size, case mix, and operation of the hospital affected local employment, retail sales, and use of local services such as police, welfare, and education. Second, the model focused on public safety, because the clustering of more persons with mental illness within the community triggered safety concerns among residents that may have had an effect on their shopping patterns and their sense of security. Both types of impact could be positive (beneficial to the community) or negative (a cost to the community). The size and direction of these impacts were compared with the subsidies proffered by the state as part of the consolidation plan (known benefits).

Methods

This study used a pre-post design to examine incremental community impacts of a state action that closed all

Dr. Wolff *is associate professor in the department of urban studies and community health and the Institute of Health, Health Care Policy, and Aging Research at Rutgers University, 30 College Avenue, New Brunswick, New Jersey 08901-1293 (e-mail, nwolff@rci.rutgers.edu).* *A related article appears in the State Health Care Reform column beginning on page 749.*

Table 1

Model of costs and benefits to the community of consolidating all long-term behavioral health care at a single state hospital, as identified by representatives of the state and the host community

Benefits and costs	State's perspective	Host community's perspective
Benefits		
Compensatory	Land transfer Increase of payments in lieu of taxes	None
Objective	Employment of local residents	None
	Boost in local spending	
	Hiring of local contractors	
Costs		
Objective	None	Dumping of patients in the community, resulting in an increased demand for local services and an increase in crime
		More escapes by patients, resulting in an increase in crime
		Loss in property value
Subjective	None	Stigmatization of town, resulting in a rise in fear and a loss in retail sales

state hospitals except one. Data from January 1, 1994, through June 30, 1995, before the consolidation, were compared with data from July 1, 1995, through January 1, 1997, after the consolidation. The remaining state hospital serves all long-term behavioral health and forensic patients in the state. The hospital is located roughly one mile from the town center and has been in operation for more than 100 years. The host community is a midsize, suburban, working-class town, with low levels of unemployment and high levels of social services.

The model used to estimate the incremental impacts is shown in Table 1.

State-offered compensatory benefits

As part of the state action, four parcels of land located on the hospital property were transferred to the community. The transfer was intended as "equitable relief" for the burden placed on the community, and the land could be used by the community for its benefit. In addition, the state doubled its payments in lieu of taxes to the community for the state hospital property; that is, the payments substituted for the taxes the community would have collected if the state had not owned the property.

Objective impacts

Two types of impacts were measured: objective and subjective. The objective impacts of the state action depended on how the hospital conducted its business. The business of the hospital was divided into four components: discharge behavior, security provision, employment practices, and procurement of goods and services.

Discharge behavior. It was assumed that the burden of care on the community would increase if the hospital admitted patients from other communities in the state and then discharged them into the host community. The discharge behavior of the hospital was evaluated by constructing discharge profiles for the host town and for other towns in the state. Each hospital discharge was classified as either a match or a mismatch. Matches refer to cases in which patients were discharged to their town of origin. Cases in which patients were discharged to towns other than their town of origin were classified as mismatches. Hospital discharge records were reviewed for mismatch cases.

Information about discharges was triangulated with data from two community groups that would be directly affected by the hospital's discharge behavior. First, representatives of local service providers, such as police, schools, local housing authorities, homeless shelters, community health agencies, residential care facilities, ambulance agencies, and soup kitchens, were interviewed. Respondents were asked to provide data on their caseloads for the 18-month period before and after the state action.

Next, residents of homeless shelters and residential rehabilitation programs, users of the local soup kitchen, and street people congregating in a reputed drug park were interviewed about their community residency and involvement with the hospital and other behavioral health agencies in the area. Self-reported information was validated against hospital records.

Security provision. The safety risk to the community might have increased if more patients left the hospital without authorization. To evaluate risk to the community, an absent-without-leave event was categorized by the patient's clinically assessed risk level and by whether the patient left the grounds.

Employment practices. Because the hospital is one of the major employers in the community, it was thought that local employment might increase if more local residents worked at the hospital. Hospital employment records were reviewed to determine how many new personnel were residents of the community. Salary information obtained from the hospital was used to estimate the change in the proportion of the hospital's payroll going to employees residing in the community.

Procurement of goods and services. It was assumed that the de-

mand for local services and supplies would increase because the hospital would have more employees, the hospital would be bigger and have greater needs, and the hospital was being renovated as part of the state action. Information about the hospital's purchases from local retailers and contractors was obtained from expenditure records kept by the state and hospital.

A survey of the expenditures of hospital employees was also conducted and used to estimate the incremental change in local retail purchases by new employees. Respondents were asked to report how much they spent in stores or businesses located in the town in an average week and to report larger periodic purchases, such as household furnishings, insurance, appliances, and vehicles, for the past six months. A six-month recall period was used to estimate these larger purchases. The six-month estimate was multiplied by three to get the 18-month estimate.

Subjective impacts

Subjective assessments of risk are especially important to include in this kind of study. Even though perceptions may be unrelated to real risks or costs, as measured by objective costs, they may strongly influence whether and to what extent consolidation has an impact on the community. Subjective impacts were measured in two ways.

Community perceptions and shopping behavior. The Center for Public Interest Polling at the Eagleton Institute at Rutgers University conducted a survey of local residents. Respondents were asked about their impressions of their community and about their shopping activities. They were also asked about how their impressions and shopping activities might have changed over the study period.

Merchants' perceptions of shopping trends. Businesses located in the town center were also surveyed. Respondents were asked about how the quality of the downtown area had changed over time, how retail sales patterns had changed, and what was causing these changes.

Survey samples

As indicated above, four surveys were conducted as part of the study. (The survey instruments are available from the author.) The interviews were conducted by the author or by experienced interviewers under the supervision of the author or a survey research firm.

Street person survey. A total of 136 street persons were interviewed; 54 (40 percent) were residents of programs or shelters for the homeless, 65 (48 percent) were clients of the soup kitchen, and the rest were identified in a local park. Of those who were interviewed, 133 signed release-of-information forms. The mean±SD age of the sample was 39±7.8 years. Ninety-seven (73 percent) were male, and 94 (71 percent) were white. Ninety-two (69 percent) were high school graduates or had a general equivalency diploma, and 85 (64 percent) were unemployed.

Employee expenditure survey. Of the 1,336 hospital employees, 489 (37 percent) completed the local expenditure survey. Because it was thought that the expenditure patterns of new employees might be in transition, all employees were invited to complete the survey form, but the responses of newly employed staff were separately identified. Surveys were completed by roughly 45 percent of new employees; transferred employees were included in this group. No demographic information was requested.

Community resident survey. The survey involved telephone interviews with a household random probability sample of 800 adult residents of the community. A gender quota was established so that an equal number of men and women were interviewed. The sampling error associated with percentages referring to the total population is ±3.4 percentage points. Most of the 800 respondents were white (672 respondents, or 84 percent); 504 (63 percent) were married or once married; 464 (58 percent) had children; 456 (57 percent) had some college training; and 384 (48 percent) were homeowners.

Merchant survey. The survey involved telephone interviews with a random sample of 25 businesses located in the downtown area. The sampling frame was based on a local listing of 95 retail and service establishments situated downtown. Of those contacted, 25 agreed to be interviewed, 15 declined, six were unavailable, and three were no longer in business. No demographic information was obtained.

Results

Overall, the incremental economic impact of the consolidation plan on the host community was positive. The added net benefit to the community of the consolidation was estimated at roughly $3.9 million (in 1997 dollars) for the 18-month period after consolidation. This benefit would recur—that is, it was estimated that the community would gain this amount every 18 months.

State-offered compensatory benefits

The package of compensatory benefits offered to the town by the state was valued at slightly less than $1 million. Sixty percent of these funds were in recurring state payments in lieu of taxes for the state hospital property.

Objective socioeconomic impact

With the exception of the hospital's response to patients who left the hospital without permission, the hospital's practices after consolidation either contributed positively to the socioeconomic welfare of the community or had no effect, compared with practices in the 18-month period before consolidation.

Discharge policies and practices. The hospital's discharge policy was to return patients ready for discharge back to their home community unless such a placement imposed risks to the patient. Consistent with these policies, 84 percent of patients discharged from the hospital in the 18 months after consolidation were discharged to their town of origin (Table 2). The host town had a mismatched discharge score of –11, meaning that among the mismatched discharges, 11 more patients from the host town were placed in some other town (Table 3).

Logistic regression was used to

Table 2

Number of patients discharged to their community of origin (matches) and to other communities (mismatches) by the state hospital in the 18-month period after consolidation, by hospital department

Department	Matches		Mismatches		Total N of discharges
	N	%	N	%	
Mental health	210	69	96	31	306
Addictions	2,134	88	301	12	2,435
Forensic	21	33	42	67	63
Total	2,365		439		2,804

identify predictors of mismatches. Neither being from the host town nor being discharged to the host town was a significant predictor. Findings based on hospital discharge records were confirmed by the community-based investigation.

Local service use. Local providers expected a huge surge in the need for their services after the consolidation. The medical director of the local emergency room anticipated that consolidation would be a "cataclysmic event" and that the hospital would be "deluged with patients." Similarly, the vice-president of a large nonprofit alcohol treatment facility in the town "expected floods." Yet, in retrospect, these agencies reported that consolidation had been "a nonevent."

Other service providers shared this view. Officials of the local housing programs said they were not receiving referrals from the hospital, were receiving fewer referrals after consolidation, or were receiving referrals only for clients who were residents of the host town. Service utilization data from the periods before and after the consolidation supported these perceptions.

Similar reports were provided by locally funded service agencies. The superintendent of the school system reported that consolidation "had no effect on education." The acting police chief claimed that there had been "no noticeable change in the nature or volume of interactions between the police and persons with mental illness over the past two years." His perception was consistent with the local crime statistics.

Residency history of street persons. According to hospital records, only 21 of the 133 street people surveyed (16 percent) had been patients of the hospital during the past two years. Most of these (17, or 81 percent) were former patients of the addictions department. Fourteen of the former patients (67 percent) had lived in the host town longer than two years. Fourteen of the former patients had been placed back in their town of origin, the host town, at the time of discharge. Of the seven patients (33 percent) who were not from the host town at the time of admission, only one had been discharged to the host town, because his parents were living there.

Security practice. Of the 3,036 admissions to the hospital in the 18 months after consolidation, 33 patients (1 percent) left the grounds of the hospital without permission. Patients who were on leave in other communities and who did not return to the hospital were not counted among those absent without leave. For the host town, the adjusted rate of absence-without-leave events was 1.1 per 100 admissions. The host town's exposure to unauthorized absences decreased by less than one patient (a decrease of .6) in the 18 months after consolidation. This finding was confirmed by the acting police chief, who reported that the level of police resources used to apprehend patients who left the hospital without permission had not changed since consolidation.

Employment practices. With consolidation, the number of employees of the hospital increased by 61 percent, to 1,336. In the month before consolidation, 14 percent of the annual hospital payroll went to the 200 employees who resided in the host town. By contrast, in the last month of the study period, 320 employees residing in the host town received 24 percent of the annual payroll.

Local purchases by the hospital. The hospital made purchases both for operations and for the renovation. Overall, payments to businesses in the host town increased 10

Table 3

Number of matched and mismatched discharges to the community of origin for towns located in the hospital's catchment area, by hospital department

Town and hospital department	N of matches	N of mismatches		Net migration into the host town
		To the host town from another	From the host town to another	
Host town				
Mental health	57	7	15	–8
Addictions	325	32	31	+1
Forensic	0	1	5	–4
Total	382	40	51	–11
Town 2				
Mental health	36	8	7	+1
Addictions	352	21	44	–23
Forensic	4	6	3	+3
Total	392	35	54	–19
Town 3				
Mental health	37	7	8	–1
Addictions	338	7	21	–14
Forensic	0	1	0	+1
Total	375	15	29	–14

percent with the advent of consolidation. That is, payments to local businesses from the hospital increased by approximately $315,000 in the year after consolidation, and these payments were distributed to 99 local businesses. During the 18-month period, the incremental increase in total local purchases was estimated at $472,500.

Local purchases by new employees. The average new employee reported spending $91 a week in the host town. To the extent that the surveyed sample is representative of all new employees, consolidation added approximately $45,900 to retail sales of local businesses every week. New employees also reported spending, on average, another $322 for services and durable goods from local businesses every six months. Based on this average expenditure, estimated local expenditures for services and durable goods by all new employees equaled $162,288 every six months. Overall, it was estimated that new employees would add a total of $4.1 million to local retail sales every 18 months.

Subjective socioeconomic impact

A small segment of the community believed that the consolidation plan had harmed the welfare of the community.

Residential perceptions. A total of 640 of the 800 respondents from the host town (80 percent) thought that the town as a place to live either had improved or had not changed over had the past two years. When asked specifically about the changes in the downtown shopping area, 304 respondents (38 percent) said that the downtown area had become worse since consolidation. Almost a quarter of these residents said that what they liked least about the downtown area was that too many people were homeless (80 respondents, or 10 percent) or mentally ill (16 respondents, or 2 percent) and that the streets were not safe (80 respondents, or 10 percent). When asked why there was homelessness in their community, 176 of the town residents (22 percent) attributed the increase to the impact of the hospital—104 (13 percent) cited the discharge of patients into town from the hospital and 72 (9 percent) cited the social services provided by the community.

Shopping behavior. Sixteen of the 800 residents surveyed (2 percent) said that what they least liked about the downtown area was that there were "too many mentally ill people downtown." It was estimated that these 16 residents would each spend $184 more per month downtown if people with mental illness were not in the downtown area. Based on these estimates, the retail sales potential per month associated with eliminating the presence of persons with mental illness in the downtown area was $62,773, or $1.1 million for the 18-month period.

Merchants' perceptions. The 25 merchant respondents were divided in their assessment of how the retail activity in the downtown area had changed over the past two years. Ten merchants (40 percent) said that the downtown area had not changed. Nine merchants (36 percent) reported a decline in retail activity, and seven of them attributed it to poor economic conditions in the state. Three merchants (12 percent) attributed the decline in retail activity to the "atmosphere" of the downtown area. In particular, they mentioned "the crazies walking around," the "bad reputation" of the downtown area, and "too many drugs in the area."

Discussion and conclusions

Although the directional indicators and dollar estimates suggest that the net impact of consolidation on the community was positive, this finding must be cautiously interpreted. The future effect of the hospital on the community depends in part on uncertain political processes and institutional behaviors. In the future, the state could change the rate of payments in lieu of taxes or limit such payments, reducing the amount of funding received by the community. Moreover, the behavior of the hospital could change in ways that lead to more nonresident patients being discharged to the host town, more patients leaving the hospital without permission, fewer job opportunities, and fewer local purchases.

The methods used in the community impact model also influence the durability of the findings because some potential impacts were excluded while others were either overestimated or underestimated.

Excluded impacts

The impact of consolidation on local property values was not formally estimated, although it was a community concern. This impact was not rigorously studied because the 18-month study period was too short to detect changes in local property values. Housing prices in the area during the periods before and after consolidation were reviewed, but no meaningful trends could be detected. However, it remains theoretically unclear whether an expansion of the hospital would affect local property values even in the longer run, given the hospital's hundred-year history there.

It would be advisable, however, to include the impact on property values in future studies because communities fear that the treatment of persons with psychiatric disabilities in their neighborhoods will lower local property values (5–7). In fact, a majority of the residents we surveyed who knew about the consolidation plan (56 percent) thought that it would hurt the value of their property. Moreover, opinions about the consolidation plan itself were strongly influenced by home ownership. Home ownership was the most important predictor of strong disapproval of the consolidation plan.

Overestimated impacts

It was not always possible to estimate the incremental impact of the consolidation on the community. For example, we could not construct a meaningful question that measured the extra spending that would occur downtown if the extra patients discharged from the hospital since consolidation—as opposed to all persons with mental illness—were removed from the downtown area.

Underestimated impacts

Our estimate of the hospital's impact on local employment is likely to be understated for two reasons. First,

most of the "new" employees were transfers from closed hospitals, but over time this trend is likely to be replaced by the hiring of local residents. Second, some transferred employees moved to the host community. The additional property tax payments to the city resulting from these relocations were not calculated as a local benefit. Similarly, the $36 million renovation of the hospital property is likely to increase the state's payment in lieu of taxes if the return on investment is greater than .87 percent (.0087 cents per dollar invested).

Implications

Government policies that consolidate residential responsibilities for persons with severe mental illness are controversial in part because the state and the community see these policies differently. Research can inform these debates provided that the community impact framework underpinning the study includes the different perspectives and attempts to measure the effects accurately and reliably. This study used a comprehensive approach that blends the different perspectives. Differences of opinion between state policy makers and communities about the costs and benefits of consolidation and relocation plans will persist unless comprehensive community impact studies are routinely required. Disputes over impressions and facts will continue unless mechanisms that bridge the information gap between the community and the state can be developed. ♦

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