State Psychiatric Hospital Census After the 1999 Olmstead Decision: Evidence of Decelerating Deinstitutionalization

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Objective: **The Supreme Court ruled in the 1999 Olmstead decision that "unjustified isolation" of individuals with disabilities in institutions is a violation of the Americans With Disabilities Act. This study examined the extent to which state psychiatric hospital census across the United States has changed significantly post-Olmstead.** ***Methods:*** **Twenty years of national state hospital census data (1984–2003) were used to assess trends in the rate of declines from pre- to post-Olmstead periods. Data were organized into five four-year periods.** ***Results:*** **Steady declines in the hospital census nationally were found over all periods, with especially large decreases in the 1990s. However, when the percent change in hospital census in the two periods immediately before the Olmstead decision (between 1992–1995 and 1996–1999) were compared with the percent change in the periods immediately before and immediately after the Olmstead decision (between 1996–1999 and 2000–2003), an 8 percent decrease in the magnitude of decline was seen.** ***Conclusions:*** **State hospital census continues to decline but has slowed significantly during the post-Olmstead period. More study of the factors associated with this decline is needed. (*Psychiatric Services* 57:1501–1504, 2006)**

Community integration is defined as the opportunity for people with mental illnesses to live in the community and be valued for their uniqueness and abilities like everyone else (1). Increased opportunities are expected to boost participation in the community and enhance well-being and recovery. The impetus underlying community integration as a right is exemplified in Title II of the 1990 Americans with Disabilities Act (ADA), which requires state and local governments to give people with disabilities an equal opportunity to benefit from all of their programs, services, and activities. Subsequent litigation has further defined the scope of the law. For example, in the *Olmstead vs. Lois Curtis and Elaine Wilson* Supreme Court decision in 1999, the court ruled that it is a violation of the ADA to provide services to persons with cognitive disabilities only in institutions when they could be served equally as well, or more effectively, in a community-based setting (2).

Deinstitutionalization movements existed before the Olmstead decision and have resulted in steady yearly decreases in state hospital census across the country. One plausible hypothesis is that the national and state policy and services initiatives resulting from Olmstead would speed up this trend, producing even greater reductions during the post-Olmstead period. A time-series analysis that used state-level hospital census data was conducted to examine deinstitutionalization trends over time and to specifically examine trends pre- and post-Olmstead to identify noticeable changes.

Methods

This study utilized state-level data submitted to the Survey and Analysis Branch of the Center for Mental Health Services (CMHS) as part of its long-standing effort to report institutional data (3). Each state is asked to annually submit, among other things, aggregate data on the age, gender, and diagnosis of institutionalized persons, as well as data from individual state and county hospitals on additions (that is, admissions, readmissions, and returns from leave) and the number of resident patients at the end of the year. These data are compiled into a document published annually by CMHS called *Additions and Resident Patients at End of Year, State and County Mental Hospitals, by Age and Diagnosis, by State, United States, [Year].* The study presented here utilized state-level data reported in Table 7 of the annual documents ("Number of percent of additions and resident patients…") from this annual published report for 1984 through the most current figures published for 2003. Reported data were edited

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Table 1

Average census data on residents in state- and county-run mental hospitals, by state and nationwide, and resident additions nationwide by time and change between periods

Location	Average per time period					% change between time periods[a]			
	Period 1 1984–1987	Period 2 1988–1991	Period 3 1992–1995	Period 4 1996–1999	Period 5 2000–2003	1 to 2	2 to 3	3 to 4	4 to 5
State									
Alabama	1,902	1,865	1,678	1,161	962	–1.9	–10.0	–30.8	–17.1
Alaska	190	100	66	65	63	–47.6	–33.4	–2.3	–3.5
Arizona	526	509	478	376	308	–3.3	–6.0	–21.3	–18.1
Arkansas	197	195	159	151	137	–.6	–18.7	–4.9	–9.4
California	5,331	5,097	4,509	4,588	4,393	–4.4	–11.5	1.8	–4.3
Colorado	971	857	813	753	841	–11.8	–5.1	–7.3	11.7
Connecticut	2,293	1,677	1,086	573	546	–26.9	–35.3	–47.2	–4.8
Delaware	531	467	528	419	256	–12.0	13.1	–20.7	–38.8
District of Columbia	1,723	1,531	1,195	833	621	–11.2	–22.0	–30.3	–25.4
Florida	3,533	3,649	2,883	2,621	2,024	3.3	–21.0	–9.1	–22.8
Georgia	3,649	3,410	3,255	2,772	2,856	–6.5	–4.5	–14.8	3.0
Hawaii	245	221	190	164	168	–9.9	–13.7	–14.1	2.9
Idaho	186	160	143	159	165	–14.1	–10.5	11.0	3.6
Illinois	4,109	3,896	3,031	1,758	1,218	–5.2	–22.2	–42.0	–30.7
Indiana	2,461	2,086	2,196	2,377	1,360	–15.2	5.3	8.3	–42.8
Iowa	877	778	488	339	323	–11.3	–37.3	–30.5	–4.9
Kansas	1,516	1,252	1,263	682	458	–17.4	.9	–46.1	–32.8
Kentucky	939	868	669	479	451	–7.6	–22.9	–28.4	–5.8
Louisiana	1,707	1,247	1,122	1,051	771	–27.0	–10.0	–6.4	–26.6
Maine	639	659	444	385	399	3.1	–32.7	–13.2	3.6
Maryland	2,731	2,490	1,936	1,537	1,385	–8.8	–22.3	–20.6	–9.9
Massachusetts	2,415	2,056	879	692	598	–14.9	–57.3	–21.2	–13.7
Michigan	4,580	3,201	2,150	1,545	1,100	–30.1	–32.8	–28.1	–28.8
Minnesota	1,790	1,737	1,656	1,168	1,094	–3.0	–4.6	–29.5	–6.3
Mississippi	1,403	1,456	1,242	1,198	759	3.8	–14.7	–3.6	–36.6
Missouri	2,237	1,793	1,342	1,382	1,421	–19.9	–25.2	3.0	2.8
Montana	325	290	209	193	180	–10.7	–28.2	–7.7	–6.6
Nebraska	614	584	587	483	484	–4.9	.6	–17.7	.1
Nevada	119	133	115	115	113	12.4	–13.7	.0	–1.7
New Hampshire	230	154	142	181	188	–33.2	–7.8	27.7	4.0
New Jersey	3,957	3,623	3,402	2,952	3,132	–8.4	–6.1	–13.2	6.1
New Mexico	215	231	217	160	164	7.2	–5.9	–26.5	2.3
New York	22,235	17,505	11,842	7,450	5,666	–21.3	–32.3	–37.1	–23.9
North Carolina	3,126	2,702	2,278	2,027	1,594	–13.6	–15.7	–11.0	–21.4
North Dakota	477	344	232	207	163	–27.8	–32.7	–10.6	–21.4
Ohio	4,267	3,361	1,952	1,263	1,102	–21.2	–41.9	–35.3	–12.7
Oklahoma	1,006	871	714	438	385	–13.4	–18.1	–38.7	–12.0
Oregon	1,058	1,157	912	621	480	9.4	–21.2	–32.0	–22.7
Pennsylvania	7,951	6,602	5,077	3,402	2,444	–17.0	–23.1	–33.0	–28.1
Rhode Island[b]	304	162	136	81	0	–46.7	–15.9	–40.4	—
South Carolina	2,092	1,588	1,181	981	756	–24.1	–25.6	–16.9	–23.0
South Dakota	419	392	328	270	257	–6.4	–16.3	–17.6	–4.8
Tennessee	1,787	1,689	1,226	1,104	995	–5.5	–27.4	–10.0	–9.9
Texas	4,338	3,780	2,956	2,071	2,394	–12.9	–21.8	–29.9	15.6
Utah	312	315	333	295	330	1.0	5.6	–11.3	11.9
Vermont	177	124	78	58	54	–29.9	–36.9	–26.2	–6.1
Virginia	3,311	3,130	2,587	2,110	1,656	–5.5	–17.4	–18.4	–21.5
Washington	1,320	1,386	1,310	1,163	1,285	5.0	–5.4	–11.3	10.5
West Virginia	679	527	254	230	192	–22.4	–51.9	–9.4	–16.4
Wisconsin	890	849	890	597	667	–4.6	4.8	–32.9	11.7
Wyoming	244	201	154	88	85	–17.4	–23.4	–42.8	–3.4
Nation	110,125	94,948	74,507	57,763	49,437	–13.8	–21.5	–22.5	–14.4
Additions nationwide[c]	326,791	285,241	236,867	174,769	157,844	–12.7	–17.0	–26.2	–9.7

[a] Percentages were calculated from unrounded averages.
[b] Rhode Island closed its only state hospital in 1999.
[c] Residents of state and county mental hospitals who were admitted, were readmitted, and returned from leave

to correct for apparently random anomalies. These changes were approved by CMHS and will be published as an addendum in the near future, and they are available on request from the first author.

We used the annually submitted data and grouped them into four-year periods. We then calculated the average for each period (for example, average census for the post-Olmstead period from 2000 to 2003) in order to examine the percent increases or decreases in average census between time periods.

Results

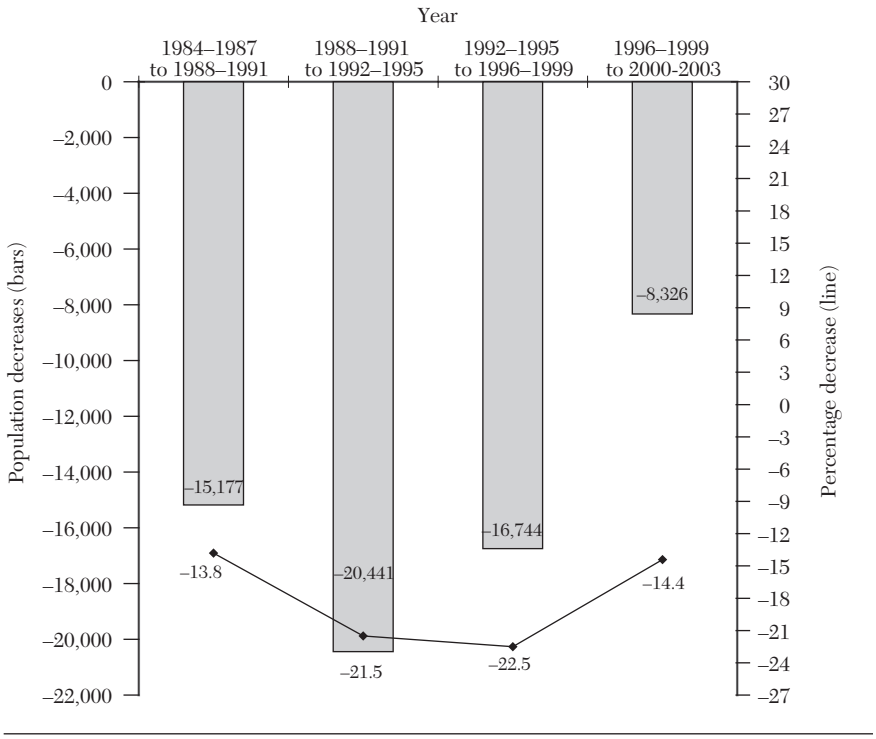
The average state hospital census for each of five four-year periods by state are presented in Table 1, along with the percentage change from one period to the subsequent period. Census changes between each period and the next were examined by using one-sample t tests of the percent change between periods to test deviation from zero percent change.

Statistically significant reductions were found from one time period to the subsequent time period for all comparisons ($p<.001$). Average census reductions across the states were –12 percent change from period 1 to 2 (95 percent confidence interval [CI]=–16 percent to –8 percent), –18 percent change from periods 2 to 3 (CI=–22 percent to –14 percent), –18 percent change from periods 3 to 4 (CI=–23 percent to –14 percent), and –10 percent change from periods 4 to 5 (CI=–15 percent to –6 percent). The –10 percent change reflects the average percentage reduction in deinstitutionalization across the states between the period immediately before the Olmstead decision to the period immediately afterward.

An additional analysis was conducted to examine whether the rate of decrease has sped up, stayed the same, or decreased in the post-Olmstead period. A paired-samples t test was conducted by using the percent change in hospital census from periods 3 to 4 for each state and comparing it with the percent change for that same state from periods 4 to 5. An 8 percent decrease in the magnitude of decline was found (CI=–13 to –2 percent; $t=-2.78$, $df=49$, $p<.008$). A simultaneous decrease in resident additions nationally was also seen in the post-Olmstead period (Table 1). National data on decreases in residents from one time period to the next and the corresponding percent change are presented in Figure 1.

Figure 1

National data on decreases of residents in state- and county-run mental hospitals between 1984 and 2003, by four-year period



Discussion

Substantial decreases in the total number of institutionalized individuals occurred over time, especially in the 1990s, but the rate of decrease slowed considerably in the post-Olmstead period to rates found in the 1980s. A similar slowdown was found in a comparable study examining the deinstitutionalization of individuals with intellectual and developmental disabilities (4). The deceleration in the initial four-year period after the Olmstead decision is clear. The extent to which the Olmstead decision and subsequent policies played, or did not play, in the deceleration remains murky. This time-series analysis cannot be used to point to a particular event—that is, the Olmstead decision—as the cause of the decreased deinstitutionalization, but it is important to examine census patterns and speculate on potential factors that account for this slowdown.

Results showing a slowdown may be expected given the magnitude of deinstitutionalization in the 1990s and the inability of states to maintain the pace because of the exhaustion of community treatment and support services that increase opportunities for people to live in the community. Individuals who remain in the hospital are plausibly becoming increasingly more challenging to place in the community. A review of published data from the Inventory on Mental Health Organizations available from the CMHS indicates an 8 percent increase in males and a 10 percent increase in nonwhite inpatient residents from 1988 to 2002 (61 percent to 69 percent and 37 percent to 47 percent, respectively). There has also been a small increase in the percentage of hospitalized individuals with a diagnosis of schizophrenia and other psychotic disorders, from 55 percent in 1985 to 58 percent in 2003 (5).

The Substance Abuse and Mental Health Services Administration is also currently charting potentially significant increases in the forensic

population that some states claim is approaching 50 percent of all of their inpatient residents. The effect of diagnosis trends on deinstitutionalization is seemingly apparent, but the trend is small, whereas the role that a greater percentage of institutionalized residents who are male and nonwhite may play in the slowdown of deinstitutionalization trends is complicated and beyond the scope of this report. The anecdotal evidence for an explosion in the forensic population could potentially explain a significant amount of variance in the deceleration and seeming lack of an "Olmstead effect" on deinstitutionalization.

The significance and scope of the Olmstead decision also requires that states take time to develop and implement policies in response to its requirements. Significant litigation across states (6) may impede initiatives until the legal issues are sufficiently resolved. One might expect that the impact of the Olmstead decision would grow over time. However, a year-to-year examination of 2000 to 2003 data indicates a within-period deceleration in national state hospital census with the decrease of 666 individuals from 2002 to 2003 being the smallest yearly decrease within this period. Of interest is that 2002 to 2003 also saw the first national increase in resident additions since 1984 to 1985, and decreases in resident admissions were also found to have slowed after the Olmstead decision.

There is significant variation in hospital census and declines across the states from the pre- to post-Olmstead periods. Eight states (Delaware, Illinois, Indiana, Kansas, Louisiana, Michigan, Mississippi, and Pennsylvania) and the District of Columbia experienced more than a 25 percent reduction in hospital census from the pre- to post-Olmstead time periods. Seventeen states saw a larger percentage decline after the Olmstead decision (between periods 4 and 5) than the declines seen between the previous periods (between periods 3 and 4). Further research could examine the influence, if any, Olmstead had in these states, such as by prompting the creation of a faster planning process, an increase in community resources, greater consumer involvement in planning, and less litigation.

The data used in this study had a small number of observable, unsystematic errors that were corrected before analysis. The results of this study pertain only to individuals residing in state- and county-run hospitals and leave out those residing in other types of residential facilities. Nonetheless, these hospitals still play a considerable role in long-term residential care policy and house a majority of individuals in long-term institutions.

Conclusions

The Olmstead decision and related policy initiatives have drawn greater attention to community integration and efforts to further decrease the number of persons living in institutions. Our data, and the results from other studies (4), raise important questions about the extent to which Olmstead has thus far generated effective community integration policies across the nation. They also raise questions about the extent to which Olmstead can have an effect on institutional census given the relatively large census decreases in the 1990s and questions about trends in the characteristics of those who remain in institutions that might affect community placement. From a policy perspective it appears that continued monitoring of Olmstead initiatives and outcomes may be warranted to ensure that the promise of Olmstead results in maximum opportunities for people with mental illnesses to live in the community like everyone else. Research on case-mix trends within institutions is also needed to understand factors that may affect community placement, along with research on factors, effective community supports, and costs associated with community placement of those who remain in institutions.

Acknowledgments

This study was partially supported by grant H133-B0311-09 for the University of Pennsylvania Collaborative on Community Integration funded by the National Institute on Disability and Rehabilitation Research (National Institute on Disability and Rehabilitation Research, Dr. Salzer, principal investigator). Joseph Rogers is acknowledged for his continued inspiration and reminders to attend to individuals who remain in institutions.

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