



## **CSH Literature Review of Supportive Housing: Inpatient and EMS**

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Information listed in the Outcomes table has been taken directly from the relevant study. Such outcomes do not constitute analysis or advice.

Please direct all questions and concerns about the literature review to [pfs@csh.org](mailto:pfs@csh.org)

#	Study	N	Study design	Impact: Healthcare Inpatient & EMS
1	<b>Culhane (2002)</b>	3,365	Matched control group	<p>45% pt decline in proportion of population accessing non-Medicaid hospital days by intervention group (65% to 20%) over two years. 32% decline experienced by control group.</p> <p>78% decline in mean number of non-Medicaid hospitalization days by intervention group (34.2 to 7.5 days) over two years. 54% decline experienced by control group.</p> <p>20% pt decline in proportion of pop accessing Medicaid hospital days by intervention group (81.4% to 61.3%) over two years. 13% decline experienced by control group.</p> <p>36% decline in mean number of Medicaid hospital days by intervention group (46 to 30 days) over two years. 0% decline experienced by control group.</p>
2	<b>Gulcur (2003)</b>	225	RCT	<p>0.014 decrease in proportion of time spent in hospital by experimental group recruited from street over two years. 0.030 decrease in proportion of time spent in hospital by control group recruited from street.</p> <p>0.686 decrease in proportion of time spent in hospital by experimental group recruited from hospital over two years. 0.698 decrease in proportion of time spent in hospital by control group recruited from hospital.</p>
3	<b>Trotz, Bamberger, and Antonetty (2004)</b>	483	Pre/post study	<p>58% reduction in ED visits after entering program</p> <p>47% reduction in inpatient visits compared to two years prior to placement</p>
4	<b>Perlman and Parvensky (2006)</b>	19	Pre/post study	<p>73% decline in emergency costs two years post placement when compared to the two years prior, with savings averaging \$31K per person</p> <p>ER visits and costs reduced by 34.3%</p> <p>Inpatient visits reduced by 40% and inpatient nights reduced by 80%</p>
5	<b>Martinez et al (2006)</b>	236	Pre/post study	<p>16% pt decline in proportion of residents with ER visits (from 53 to 37%)</p> <p>Avg number of ER visits declined from 1.94 to 0.86 visits</p> <p>56% decrease in total number of ER visits</p> <p>8% pt decline in proportion of residents hospitalized (from 19% to 11%)</p>

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#	Study	N	Study design	Impact: Healthcare Inpatient & EMS
				Decline in avg number of hospital admissions from 0.34 to 0.19
6	<b>Mondello et al (2007)</b>	99	Pre/post study	62% decline in ER costs 59% decline in healthcare costs 66% decline in ambulance costs
7	<b>Linkins et al (2008)</b>	1180	Pre/post study	30% decline in ED usage and 17% decline in hospital charges in the first year of enrolment. Where data available for second year, even greater decreases (e.g. 60% decline in ED from baseline)  17% decline in inpatient admissions, 14% decline in inpatient charges in first year. 64% decline in admissions and 69% decline in charges in the second year.
8	<b>Hall (2008)</b>	20	Pre/post study	25% decline in ED visits and 28% decline in ED charges after one year 61% decline in ED visits and 59% decline in ED charges after two years. 17% decrease in inpatient visits, 3% increase in inpatient days, and 14% decrease in inpatient charges after one year 64% decrease in inpatient visits, 62% decrease in inpatient days, and 69% decrease in inpatient charges after two years 19% decline in EMS interventions
9	<b>Mondelo et al (2009)</b>	163	Pre/post study	14% decline in ER costs over one year 32% decline in ambulance costs over one year

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10	<b>The Heartland Alliance and Mid-America Institute on Poverty (2009)</b>	177	Pre/post study	<p>Medicaid-funded inpatient medical care increased post-supportive housing, concentrated in first 6 months, then dramatically reduced</p> <p>Outpatient psychiatric care use increased post-supportive housing, concentrated in first 6 months</p> <p>The use of Inpatient/Acute Medicaid services decreased 82 percent</p>
11	<b>Flaming, Burns, Matsunaga (2009)</b>	279	Pre/post study	<p>91% savings (\$768 pp) estimated for Health Services inpatient visits</p> <p>82% savings (\$348 pp) estimated for private hospital inpatient visits</p> <p>87% savings (\$144) estimated for paramedics</p>
12	<b>Sadowski et al (2009)</b>	201	RCT	<p>Unadjusted annualized mean change of:            0.5 fewer hospitalizations            2.7 fewer hospital days            1.2 fewer emergency department visits.</p> <p>Adjusting for baseline covariates, compared with the usual care group, relative change of:            29% decline in hospitalizations            29% decline in hospital days            24% decline in ED visits.</p>
13	<b>Larimer, Malone, Garner et al (2009)</b>	95	Wait-list control group	<p>Decline in EMS from .4 per person per month in the year prior to housing to 0.5 in the 6 months after housing and 0.2 in the 12 months after housing.</p>
14	<b>MA Housing &amp; Shelter Alliance (2012)</b>	555	Pre/post study	<p>Decline in ER visits from 3.42 to 1.79 visits per person from 12 months pre/post housing</p> <p>Decline in hospitalizations from 5.48 to 3.84 stays per person from 12 months pre/post housing</p> <p>Decline in ambulance uses from 1.53 to 0.83 per person from 12 months pre/post housing</p>
15	<b>Knoxville Mayor's Office et al (2012)</b>	47	Pre/post study	<p>Healthcare costs increased \$3,198 per person after housing</p> <p>For inpatient hospitalizations, 7% of the study participants account for 59% of the pre-housing charges and 90% of the post-housing charges.</p>

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16	<b>Flaming, Lee, Burns, Sumner (2013)</b>	36	Pre/post study	<p>On an annual average per-person basis:</p> <p>Emergency room visits decreased 50 percent, from 6.0 to 3.0</p> <p>Hospital admissions decreased 71 percent, from 1.8 to 0.5</p> <p>Inpatient days decreased 84 percent, from 8.6 to 1.4</p> <p>Emergency room costs decreased 67 percent, from \$3,702 to \$1,222</p> <p>Inpatient cost decreased 68 percent, from \$13,354 to \$4,254</p>
17	<b>Aidala et al (2013)</b>	72	Control group	<p>Ambulance rides were significantly less for the intervention group. Comparison group members had an average of 1.2 ambulance rides; FUSE II participants had fewer than one ambulance ride (mean 0.67).</p> <p>Average number of hospitalization days for medical reasons and of emergency room visits for any reason showed no substantial differences between intervention and comparison groups, though the slight differences were in the direction the program expected to create.</p>
18	<b>NYC Dept of Health &amp; Mental Hygiene (2013)</b>	1695	Control group	Savings of \$935 per person in Medicaid spending compared to control group
19	<b>Thomas et al (2014)</b>	73	Pre/post study	<p>78% reduction in ER visits</p> <p>79% reduction in hospitalizations</p> <p>70% reduction in hospital charges</p>
20	<b>CORE (2014)</b>	99	Pre/post study	<p>Inpatient physical health: 4.8 visits pre move, 3.7 after one year, 8.9 after two years</p> <p>ED visits: 2.7 pre move, 1.6 after one year, 1.3 after two years</p>
21	<b>Basu et al (2012)</b>	201	RCT	<p>0.47 fewer hospitalizations than control</p> <p>2.64 fewer days in hospital than control</p> <p>1.27 fewer ER visits than control</p>

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