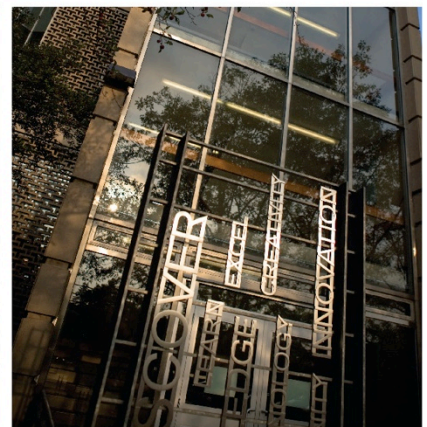


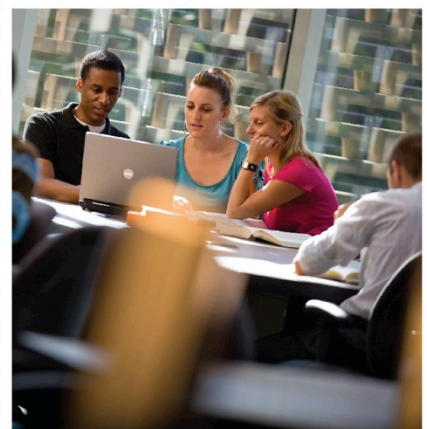


ADDRESSING LONG-TERM STAYS
IN HOSPITAL FOR PEOPLE WITH
MENTAL HEALTH AND
ADDICTIONS CONCERNS

RAPID
SYNTHESIS
(30-DAY
RESPONSE)



19 SEPTEMBER 2016



EVIDENCE >> INSIGHT >> ACTION

Rapid Synthesis:
Addressing Long-term Stays in Hospital for People with Mental Health and Addictions Concerns

19 September 2016

McMaster Health Forum

For concerned citizens and influential thinkers and doers, the McMaster Health Forum strives to be a leading hub for improving health outcomes through collective problem solving. Operating at regional/provincial levels and at national levels, the Forum harnesses information, convenes stakeholders, and prepares action-oriented leaders to meet pressing health issues creatively. The Forum acts as an agent of change by empowering stakeholders to set agendas, take well-considered actions, and communicate the rationale for actions effectively.

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Timeline

Rapid syntheses can be requested in a three-, 10- or 30-business day timeframe. This synthesis was prepared over a 30-business day timeframe. An overview of what can be provided and what cannot be provided in each of the different timelines is provided on McMaster Health Forum's Rapid Response program webpage.

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Conflict of interest

The authors declare that they have no professional or commercial interests relevant to the rapid synthesis. The funder played no role in the identification, selection, assessment, synthesis or presentation of the research evidence profiled in the rapid synthesis.

Merit review

The rapid synthesis was reviewed by a small number of policymakers, stakeholders and researchers in order to ensure its scientific rigour and system relevance.

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KEY MESSAGES

Questions

- What factors lead to long-term stays in hospitals for people with mental health and addictions issues?
- What mechanisms can be used to avoid long-term stays?
- What models have been used to support reintegration of people with mental health and addictions issues into the community after a long-term stay in hospital?

Why the issue is important

- As of last year, nearly two million Ontarians saw their family physicians for mental health and addictions concerns, with these two conditions accounting for approximately 10% of the disease burden in Ontario.
- Psychiatric alternate level of care (ALC) days and long-stay days represent a significant portion of all inpatient resources.
- Approximately 40% of patients with complex mental health and addictions concerns currently in tertiary care could be treated in the community.
- Ontario continues to face challenges in planning for and providing community-based mental health and addictions services and support services in a community setting that meet the needs of these patients.
- Identifying the best available research evidence on the issue is important, as it can contribute to improving outcomes for people living with mental health and addictions concerns.

What we found

- We identified a total of 24 relevant documents addressing some aspects of the questions, including nine systematic reviews, seven primary studies, and four program and system descriptions/analyses.
- From these, we identified:
 - factors leading to long-term stays in hospitals, including lack of capacity in long-term care homes, lack of supported employment and housing, patients with difficulties in adapting to community living (e.g., violent behaviour, multiple complex health and social issues), and lack of hospital support and patient engagement (e.g., not having transition teams to assist patients and their families to transition to the community);
 - mechanisms that can be used to avoid long-term stays, including assertive community treatment (ACT), intensive case management (ICM), short-stay hospital care, personalized care, psychiatric day hospital care, supported discharge from long-term hospital stay to community-based care, intensive home treatment, and post-treatment self-help groups;
 - limited literature on the outcomes of community integration for people with mental health and addictions after long-term hospital stays, but the evidence we did identify found positive outcomes for supported employment (e.g., increased length and time of people's employment), and insufficient evidence about the effects of supported housing; and
 - key features of a transitioning model, including post-discharge follow-up and monitoring by specialized multidisciplinary teams, psychiatric support in the community and policies that support timely readmission when needed, placing community mental health and addictions staff in the hospital, engaging peers and family in the transitioning process, and access to community-support services such as housing and employment.

QUESTIONS

- What factors lead to long-term stays in hospitals for people with mental health and addictions concerns?
- What mechanisms can be used to avoid long-term stays?
- What models have been used to support reintegration of people with mental health and addictions concerns into the community after a long-term stay in hospital?

WHY THE ISSUE IS IMPORTANT

As of last year, nearly two million Ontarians saw their family physicians for mental health and addictions concerns. These two conditions account for approximately 10% of the disease burden in Ontario.(1) Psychiatric alternate level of care (ALC) days and long-stay days represent a significant portion of all inpatient resources. Approximately 40% of patients with complex mental health and addictions concerns currently in tertiary care could be treated in the community.(2) Ontario continues to face challenges in planning for and providing community-based mental health and addictions services and other support services that meet the needs of patients with mental health and addictions concerns.

Identifying the best available research evidence on the issue is important, as it can support the swift identification of potential approaches to reduce the time spent in hospital, and improve the overall quality of life and outcomes for people living with mental health and addictions concerns.

In this rapid response requested by Hamilton Niagara Haldimand Brant Local Health Integration Network (LHIN), we sought to identify research evidence to support efforts to address long-term stays in hospital for people with mental health and addictions concerns.

WHAT WE FOUND

We identified a total of 24 relevant documents addressing (at least in part) one or more of the questions, including nine systematic reviews,(3-11) four economic evaluations,(12-15) seven primary studies,(16-22) and four program and system descriptions/analyses.(2;23-25) We provide more details about each systematic review and single study in Appendix 1 and 2, respectively.

Box 1: Background to the rapid synthesis

This rapid synthesis mobilizes both global and local research evidence about a question submitted to the McMaster Health Forum's Rapid Response program. Whenever possible, the rapid synthesis summarizes research evidence drawn from systematic reviews of the research literature and occasionally from single research studies. A systematic review is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select and appraise research studies, and to synthesize data from the included studies. The rapid synthesis does not contain recommendations, which would have required the authors to make judgments based on their personal values and preferences.

Rapid syntheses can be requested in a three-, 10- or 30-business-day timeframe. An overview of what can be provided and what cannot be provided in each of these timelines is provided on the McMaster Health Forum's Rapid Response program webpage (<http://www.mcmasterhealthforum.org/policymakers/rapid-response-program>)

This rapid synthesis was prepared over a 30-business day timeframe and involved four steps:

- 1) submission of a question from a health system policymaker or stakeholder (in this case, Hamilton Niagara Haldimand Brant LHIN);
- 2) identifying, selecting, appraising and synthesizing relevant research evidence about the question;
- 3) drafting the rapid synthesis in such a way as to present concisely and in accessible language the research evidence; and
- 4) finalizing the rapid synthesis based on the input of at least two merit reviewers.

Question 1 – What factors lead to long-term stays in hospitals for people with mental health and addictions concerns?

We did not identify any systematic reviews that addressed this question. However, we identified five single studies(16-18;21-22) and four program and system descriptions/analyses (2;23-25) that mentioned potential factors leading to long-term stays in hospitals for people with mental health and addictions concerns. A recent qualitative study was conducted in Alberta and examined the process of placing older adults from mental health hospital units into nursing homes or assisted living facilities. The authors concluded that a lack of funding, specialized supports, and capacity in nursing homes for older adults with mental health concerns contributed to long-term stays in hospitals.(16) A primary study conducted in Italy assessed 130 psychiatric patients' treatment characteristics and processes of care for them. The study found that a lack of housing and shortage of community support prolonged stays in hospitals for people with mental health issues.(17) Similarly, a retrospective cross-sectional study also found that a lack of social support (e.g., supported housing) after patient discharge was a contributing factor to long-term stays in hospitals. The same study also found that higher quality of inpatient care (e.g., carer involvement, individualized care plan, assertive treatment, crisis team involvement, and case management) did not result in shorter lengths of stay.(18)

The other two studies provide insights into factors contributing specifically to Alternate Levels of Care (ALC) stays among mental health and addictions clients. ALCs refer to situations where treatment goals are achieved, but clients remain in their current care setting while waiting for space in the next level of care to which they are to be discharged.(21) The first study, which was conducted in Ontario, found ALC clients were more likely to be older and have a diagnosis of schizophrenia or cognitive disorder, but significantly less likely to have a diagnosis of mood, anxiety, personality or substance use disorder.(21) An additional study found that homeless patients were significantly more likely to have an extended stay in hospital than those with adequate accommodation.(22)

Four program and system descriptions/analyses examined long-term stays in Canada (24) and Ontario.(2;23;25) The reports highlighted additional factors that lead to long-term stays in hospitals, including:

- long wait times (e.g., weeks to months) for an available long-term care bed for individuals;
- patients with multiple complex health and social issues that contribute to difficulties in adapting to community living;
- patients with violent behaviours who cannot be discharged;
- lack of dedicated hospital resources such as transition teams to work with clients and their families;

Box 2: Identification, selection and synthesis of research evidence

We identified research evidence (systematic reviews and primary studies) by searching (in July 2016) Health Systems Evidence (www.healthsystemsevidence.org), the Cochrane Library, HealthEvidence and PubMed. We searched Health Systems Evidence using the following search strategy: (Long-term OR “long term” OR extended OR “alternate level of care”) AND mental health and addictions (topic filter). We limited the results to systematic reviews of effects, systematic reviews addressing other types of questions, economic evaluations and costing studies, health reform descriptions, Canada's health system documents, and Ontario's health system documents. In the Cochrane Library, we searched for (Long-term OR “long term” OR extended OR “alternate level of care”) AND mental health in the title, abstract and keywords. For HealthEvidence, we searched for (Long-term OR “long term” OR extended OR “alternate level of care”) AND mental health (topic area). Lastly, in PubMed, we searched using the following combination of terms: (long-term OR “long term” OR extended OR “alternate level of care”) AND hospital AND mental health AND Canada.

The results from the searches were assessed by one reviewer for inclusion. A document was included if it fit within the scope of the questions posed for the rapid synthesis.

For each review we included in the synthesis, we documented the focus of the review, key findings, last year the literature was searched (as an indicator of how recently it was conducted), methodological quality using the AMSTAR quality appraisal tool (see the Appendix for more detail), and the proportion of the included studies that were conducted in Canada. For primary research (if included), we documented the focus of the study, methods used, a description of the sample, the jurisdiction(s) studied, key features of the intervention, and key findings. We then used this extracted information to develop a synthesis of the key findings from the included reviews and primary studies.

- lack of patient engagement in the transitioning process;
- misconception among families about the capability of community care, resulting in family refusal of placement options; and
- lack of community-based mental health services.

Question 2 – What mechanisms can be used to avoid long-term stays?

Seven systematic reviews,(3-7;10-11) four economic evaluations(12-15) and one primary study (19) focused on mechanisms or interventions that can be used to avoid long-term stays in hospitals for people with mental health concerns. Mechanisms evaluated in these reviews and studies include assertive community treatment (ACT), intensive case management (ICM), short-stay hospital care, personalized care, psychiatric day hospital care, supported discharge from long-term hospital stay to community-based care, intensive home treatment and post-treatment self-help group. The key findings from these reviews and studies are summarized in Table 1.

Table 1: Summary of key findings from systematic reviews, economic evaluations and primary studies about mechanisms and approaches that can be used to avoid long-term stays in hospitals

Mechanism/approach	Description	Key findings
Assertive community treatment (ACT)	ACT involves ongoing care and rehabilitation of patients with mental health issues in community settings by a mobile, multidisciplinary team of mental healthcare workers, which can include intensive case management (described in the next row)	<ul style="list-style-type: none"> • One medium-quality but older review evaluated ACT for homeless populations with severe mental illness, and found significant improvements in reduced homelessness and symptom severity, but hospitalization rates were not significantly different than standard care management.(10) • An economic evaluation conducted in Australia found an 85% reduction in bed-day usage following ACT (e.g., engaging patients in their own home, assertive follow-up on non-attendance, and long-term engagement of a dedicated case manager), which represents potential cost savings of US\$428,996 per annum.(13) • Another economic evaluation which was conducted in Germany found that a schizophrenia-specific and experienced ACT team was “costly”, but treatment in the model was cost-effective given the improved patient outcomes and reduced inpatient care that were found.(15)
Intensive case management (ICM)	Community-based package of care that involves small caseloads (less than 20 individuals) and targets people with severe mental illness who do not require immediate hospital admission	<ul style="list-style-type: none"> • An older medium-quality review found that ICM is effective at reducing hospital care when hospital use by people with severe mental illness is high, but effects are diminished when hospital use is already low.(11) • Another older medium-quality review found a reduction in the length of hospitalization and improved general functioning (e.g., higher chances of employment and housing opportunities) in the ICM group when compared with standard care.(6)

Short-stay hospital care	Legislative requirement for a stay of less than 28 days in the hospital	<ul style="list-style-type: none"> A high-quality systematic review found that short-stay hospital care does not encourage a “revolving door” pattern of admission, but improves social functioning and employment opportunities when compared to long-stay patient care for people with mental health issues.(5)
Personalized care	Patients are encouraged to participate in setting goals and action plans, and determining their support needs in order to improve outcomes (e.g., physical health, psychological health, subjective health status, and capabilities for self-management)	<ul style="list-style-type: none"> A high-quality systematic review found greater improvements in mental health status and reduced hospitalization rates among the personalized care group than the usual care group.(4)
Psychiatric day hospital care	An ambulatory treatment program provided by multidisciplinary health teams, which may include the following interventions: individual psychoanalytic psychotherapy, group therapy, expressive therapy, community meetings, case management, and provision of educational resources	<ul style="list-style-type: none"> A high-quality systematic review found that there is some evidence that people with mental health issues spent significantly fewer days in inpatient care over a two-year study period, but there is insufficient evidence to determine whether day hospital care or outpatient care is a more advantageous model.(7)
Discharge from long-term hospital stay to community-based care	Discharging long-term stay patients to community-based settings that provide psychosocial and other pharmacological interventions	<ul style="list-style-type: none"> A low-quality systematic review reported positive results from discharging long-term psychiatric patients to community settings, including improvement in social functioning, stability in psychiatric symptoms, and improved attitudes towards the community.(3) A single study conducted in the U.S. evaluated psychiatric deinstitutionalization and reported positive outcomes (e.g., mental health and social results, and cost-effective).(19)
Intensive home treatment	A model called “Hometreatment brings inpatient-treatment outside” (Hot-BITs-treatment) is a supported discharge service, which provides early discharge followed by 12 weeks of intensive support (e.g., assessment, individualized home treatment plans, case management, psychoeducation and pharmacotherapy, and supportive therapies)	<ul style="list-style-type: none"> An economic evaluation found that Hot-BITs-treatment improved clinical function among patients and is a cost-effective alternative to inpatient stays.(12)
Post-treatment self-help group	A 12-step program provided on an inpatient basis for 21 to 28 days, which offers outpatient continuing care after discharge	<ul style="list-style-type: none"> An economic evaluation found reduced inpatient days and outpatient visits between one-year and two-year follow-up.(14)

Question 3 – What models have been used to support reintegration of people with mental health and addictions concerns into the community after a long-term stay in hospital?

Two systematic reviews,(8-9) one primary study (20) and one program and system description/analysis (2) focused on community reintegration for individuals with mental health issues. A high-quality systematic review focused on supported employment (e.g., finding local jobs, collaboration between employment and mental health teams, attention to people's strength and work experience, long-term individual support and counselling) for adults with severe mental illness, and found that this model increased the length and time of employment. The same review found limited evidence about the effects of the model on improving quality of life, mental health outcomes, and on reducing days in hospitals and costs.(9)

Another high-quality but older systematic review evaluated supported housing for people with severe mental illness as compared to outreach support schemes or 'standard care,' and found no relevant studies evaluating these interventions for this population. The authors concluded that policymakers should not implement supported-housing models without rigorous evaluations. In the absence of evidence, the authors indicated that alternative forms of accommodation and continued support for people with severe mental illness could only be based on a combination of professional judgment, patient preference and housing availability.(8)

The primary study, which was conducted more than 10 years ago in Ontario, assessed two key components of a program for supporting community transitions for people with mental health and addictions concerns: 1) peer support for one year for previous clients of the mental health and addictions system; and 2) overlap of inpatient and community staff where clients continue to receive care from inpatient staff while transitioning to community care over a one-year period.(20) The program was implemented in 26 psychiatric tertiary care wards in Ontario and resulted in earlier patient discharge, significant cost savings, significant improvements in social relations (including among those who identified as "having few social supports") and, despite earlier discharge, patients required no more follow-up services than those in the control group.(20) The study did however, report contamination between study groups (i.e., some from the control group accessed the intervention as well), as well as that some program sites did not implement the full program included as the intervention.(20)

Lastly, the program and system description/analysis highlighted the benefits of a transitional discharge model, which is a collaborative model involving the hospital, high-support housing and community providers. Key features of the transitional discharge model include:

- providing post-discharge follow-up and monitoring by specialized multidisciplinary health teams;
- ensuring access to psychiatric support in the community;
- implementing hospital-based policies that support timely readmission when needed;
- placing community mental health staff in the hospital;
- engaging peers and family during discharge planning and assistance in the patient's integration to the community; and
- providing support services, including both transitional and permanent high-support homes.(2)

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APPENDICES

The following tables provide detailed information about the systematic reviews and primary studies identified in the rapid synthesis. The ensuing information was extracted from the following sources:

- systematic reviews - the focus of the review, key findings, last year the literature was searched and the proportion of studies conducted in Canada; and
- primary studies - the focus of the study, methods used, study sample, jurisdiction studied, key features of the intervention and the study findings (based on the outcomes reported in the study).

For the appendix table providing details about the systematic reviews, the fourth column presents a rating of the overall quality of each review. The quality of each review has been assessed using AMSTAR (A MeaSurement Tool to Assess Reviews), which rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to delivery, financial or governance arrangements within health systems. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered “high scores.” A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1):S8).

All of the information provided in the appendix tables was taken into account by the authors in describing the findings in the rapid synthesis.

Appendix 1: Summary of findings from systematic reviews

Question	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
What factors lead to long-term stays in hospitals for people with mental health and addictions issues?		No reviews identified			
What mechanisms can be used to avoid long-term stays?	Impact of deinstitutionalization of long-stay patients (3)	Fourteen studies were identified to clarify the influence of deinstitutionalization (i.e., hospital to community-based settings) on discharged long-stay patients. Studies found that countries with deinstitutionalization have overall or partially positive results such as improvements in social functioning, stability or improvements in psychiatric symptoms, and improved attitudes towards the environment. With respect to rehabilitation, better results were obtained in the studies that offered the participants programs for or training in everyday living skills. Four of the seven studies that assessed patient quality of life and attitudes found that patients were generally more satisfied with their lives than those in more restricted settings (e.g., psychiatric wards).	Not reported	2/11 (AMSTAR rating from McMaster Health Forum)	1/14
	Evaluating the effect of personalized care planning among adults with chronic or long-term health conditions (4)	Six of the 19 studies focused on mental health and found greater improvement among the personalized care group than the usual care group. Personalized care planning encourages patients to select treatment goals and to work with clinicians to determine their specific needs for treatment and support. Only one study reported reduced hospitalization rates.	2013	10/11 (AMSTAR rating from McMaster Health Forum)	0/19

	Evaluating the effect of short-stay hospital care with long-stay patient care among people with mental health issues (5)	Six low-quality studies evaluated the effect of short stay hospital care (less than 28 days) with long-stay patient care in people with serious mental illness. No differences were found between the groups in readmission to hospital, mental state, risk of death, and people lost to follow-up. There was a significant difference favouring short-stay hospitalization in terms of social functioning. The authors indicated that short-stay patients are more likely to leave the hospital on their planned discharged date and possibly have a greater chance of finding employment. The review found that planned short-stay policies do not encourage a “revolving door” pattern of admission or disjointed care for people with serious mental illness.	2007	10/11 (AMSTAR rating from McMaster Health Forum)	0/6
	Assessing the effects of intensive case management (6)	The review assessed the effects of intensive case management (ICM) in comparison with non-ICM and with standard community care in people with severe mental illness. The review found that the length of hospitalization was reduced, and patients had improved general functioning (e.g., higher chances of employment and housing opportunities) in the ICM group when compared with standard care (e.g., a community or outpatient model of care not specifically shaped on either the model of Assertive Community Treatment or case management). The authors indicated that consideration should be placed on the setting where ICM is going to be set up, as its value was shown where hospitalization is high.	2010	7/11 (AMSTAR rating from McMaster Health Forum)	1/35
	Assessing day hospital care and outpatient care for people with mental health issues (7)	The review compared day hospitals and outpatient care for people with schizophrenia. The review found that there is insufficient evidence to determine which care is more advantageous, but reported that people allocated to day centres spent significantly fewer days in inpatient care over a two-year period. The authors indicated that day hospitals could be used to provide specialized outpatient care to people resistant to treatment.	2009	11/11 (AMSTAR rating from McMaster Health Forum)	0/4
	Assessing the effectiveness of assertive community treatment for homeless populations (10)	The review evaluated ACT for homeless populations with severe mental illness. ACT subjects had significantly greater success in reducing homelessness in eight of the 10 studies, and four out of six randomized trials. ACT subjects also had a significant reduction in psychiatric symptom severity, and study-level effect differences were significant in four out of six studies, including two out of three randomized trials.	2007	7/11 (AMSTAR rating from McMaster Health Forum)	1/10

	Assessing intensive case management for people with severe mental illness (11)	The review found that ICM is effective at reducing hospital care when hospital use by people with severe mental illness is high, but effects are diminished when hospital use is already low. The authors indicated that this is the main reason why findings on case management are inconsistent.	2007	6/11 (AMSTAR rating from McMaster Health Forum)	0/29
What models have been used to support reintegration of people with mental health and addictions issues into the community after a long-term stay in hospital?	Assessing supported employment for adults with severe mental health issues(9)	Two studies found that supported employment seems to increase the length of competitive employment and job tenure with other vocational approaches. There were no significant differences in rate of hospitalization, quality of life, global functioning score, death and direct costs. The review found limited evidence on the effectiveness of supported employment in improving a number of vocational outcomes relevant to people with severe mental illness.	2010	11/11 (AMSTAR rating from McMaster Health Forum)	1/14
	Assessing supported housing for people with mental health issues (8)	The review aimed to determine the effects of supported housing schemes compared with outreach support schemes or 'standard care' for people with severe mental disorders living in the community. No studies were identified in the review; however, the authors indicated that policymakers should not implement supported housing schemes without rigorous evaluations. In the absence of efficacy, alternative forms of accommodation and continued support for people with mental illness can only be based on a combination of professional judgment, patient preference, and availability.	2006	5/6 (AMSTAR rating from McMaster Health Forum)	0/0

Appendix 2: Summary of findings from primary studies

Question	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
What factors lead to long-term stays in hospital for people with mental health and addictions issues?	Examining the process of placing older adults with mental health issues into long-term care (16)	<i>Publication date:</i> 2009 <i>Jurisdiction studied:</i> Calgary, Alberta <i>Methods used:</i> qualitative interview with patients and healthcare professionals	Individuals were interviewed across two acute-care hospitals with mental health units, and included patients with mental illness, three nurses, three physicians, two occupational therapists, and two social workers	Examining the process of placing older adults from mental health units into nursing homes or assisted-living facilities	The authors indicated that stigma among nursing home staff and reluctance to accept patients with mental health and addiction issues into nursing homes may be a factor in long-term stays in hospitals. The study reported a lack of funding, training and physical capacity of nursing homes for people with mental illness.
	Identifying risk factors and barriers to discharging patients (17)	<i>Publication date:</i> 2009 <i>Jurisdiction studied:</i> Italy <i>Methods used:</i> standardized assessment instruments to compare patients discharged during the same index period	130 Italian public and private psychiatric inpatients who had been hospitalized for more than three months	Assessment of domains include demographic, clinical and treatment characteristics, as well as process of care	The study found that there were no overall differences between long-stay and short-stay patients in terms of symptom severity or diagnostic status. Factors associated with long-term stays include display of violent behaviour, lack of housing and shortage of community support.
	Identifying factors associated with length of stay and the risk of readmission in an acute psychiatric inpatient facility (18)	<i>Publication date:</i> 2009 <i>Jurisdiction studied:</i> U.K. <i>Methods used:</i> retrospective cross-sectional study	178 patients during a 12-month period, with 60% of patients between 30 to 49 years old who had psychiatric history of more than 10 years duration	A data collection instrument was designed to include three categories of variables: 18 sociodemographic variables, 212 clinical variables, and 56 clinical practice or system variables	The study found that behavioural manifestations of illness from a combination of various factors and lack of social support structures (e.g., supported accommodation) are contributing factors to long-term hospital stays. Quality of inpatient care does not influence shorter length of stays.

	Characteristics associated with Alternate Level of Care (ALC) status in mental health inpatient units(21)	<p><i>Publication date:</i> 2015</p> <p><i>Jurisdiction studied:</i> Ontario</p> <p><i>Methods used:</i> univariate analysis of admission assessments</p>	10,390 mental health inpatients who experienced at least one ALC day	Resident Assessment Instrument-Mental Health was conducted for patients admitted to adult mental health beds at the time of admission, discharge, three-month intervals and at any point where there was significant changes inpatient health status.	The study found ALC days for mental health patients ranged from one to 1,748 days with a median of 17 and mean of 59. ALC patients were found to receive significantly more care at the beginning of their stay than at the end. ALC patients were found to be substantially older than non-ALC patients as well as being more likely to have a diagnosis of schizophrenia and cognitive disorders. Further, they were significantly less likely to have diagnoses of mood, anxiety, personality and substance use disorders.
What mechanisms can be used to avoid long-term stays?	Cost-effectiveness psychiatric deinstitutionalization (19)	<p><i>Publication date:</i> 2004</p> <p><i>Jurisdiction studied:</i> U.S.</p> <p><i>Methods used:</i> retrospective cohort study</p>	192 patients who were hospitalized for more than one year at a psychiatric hospital	Patients were evaluated at the start and end of the study on various clinical and social dimensions, as well as quality of life	The study found that deinstitutionalized patients reported positive outcomes (i.e., mental health and social relations, and cost-effective) compared to those patients still hospitalized. The study could not identify the elements associated with deinstitutionalization that were most likely responsible for positive results observed. The authors indicated that there is a need to reorganize the mental health system with a view to ensure greater community integration for people with severe and persistent mental health disorders.

	Cost-effectiveness of ACT with standard care in schizophrenia (15)	<p><i>Publication date:</i> 2012</p> <p><i>Jurisdiction studied:</i> Germany</p> <p><i>Methods used:</i> A quasi-experimental design where two catchment areas were assigned to offer ACT or standard care</p>	120 patients with first or multiple-episode schizophrenia spectrum disorder who newly initiated treatment or who were on current treatment with quetiapine immediate release	Patients were assigned 12-month ACT as part of integrated care or standard care and were assessed at four, 12, 26, 38, and 52 weeks for demographic characteristics, psychopathology, severity of illness and functioning level	The study found that a schizophrenia-specific and experienced ACT team was “costly”, but treatment in the model was cost-effective given the improved patient outcomes and reduced inpatient care that were found. The ACT group had lower inpatient but higher outpatient costs than standard care. Compared to standard care, ACT had a significantly greater positive effect for subjective health.
	Cost-effectiveness of assertive community treatment (13)	<p><i>Publication date:</i> 2005</p> <p><i>Jurisdiction studied:</i> Australia</p> <p><i>Methods used:</i> retrospective cohort study</p>	43 patients, characterized by severe psychiatric disability and psychosocial impairments who were registered with the North East Mobile Support and Treatment Service team (NEMSTS) in the 12-month period prior to ACT, and for a period of 12 months ending on the audit date	Documented admission dates were determined over two periods. Baseline was a 12-month period prior to registration with NEMSTS, the second was a 12-month period prior to the audit date. Inpatient admission, discharge, medication status and Global Assessment of Functioning were tracked	The economic evaluation examined the effectiveness of assertive community treatment (ACT) teams in reducing readmissions to a psychiatric inpatient service. ACT involves ongoing care and rehabilitation of severely mentally ill patients in community settings by a mobile, multidisciplinary team of mental health workers. During the 12-month study period involving ACT teams, there were only 305 admission days, which represents a reduction of 1.823 inpatient bed-days. The evaluation reported that there was a statistically significant 85% reduction in bed-day usage following ACT, which represents potential cost savings of US\$428.996 per annum. The factors associated with reduced long-term stays include the importance of engaging patients in their own home, the ability to assertively follow up non-attendance, and the long-term engagement of a dedicated case manager.

	<p>Cost-effectiveness of intensive home treatment (12)</p>	<p><i>Publication date:</i> 2013</p> <p><i>Jurisdiction studied:</i> Germany</p> <p><i>Methods used:</i> randomized trial</p>	<p>164 patients admitted for child and adolescent psychiatry who had an inpatient hospital stay for greater than 72 hours, psychiatric diagnosis at admission, living in a family setting, intelligence quotient greater than 70, and sufficient German language skills</p>	<p>Intervention group was provided early discharge, followed by 12 weeks of intensive support. Effectiveness was scaled on the Children's Global Assessment Scale, and gathered at baseline, treatment completion and an eight-month follow-up</p>	<p>The study assessed the cost-effectiveness of inpatient treatment in comparison to "Hometreatment brings inpatient treatment outside" (Hot-BIT's-treatment), which is a supported discharge service which provides early discharge followed by 12 weeks of intensive support. Hot-BIT-treatment included thorough assessment, early discharge, individualized home treatment plans (i.e., case management, psychoeducation and pharmacotherapy), clinical elements (i.e. day hospital, supportive therapies), cooperation with social services, biweekly review of treatment plans by the supervising psychiatrist, and crisis management. The study reported that Hot-BIT's-treatment improved clinical function among patients and is a cost-effective alternative to inpatient stays.</p>
	<p>Evaluating the effect of post-treatment self-help group (14)</p>	<p><i>Publication date:</i> 2007</p> <p><i>Jurisdiction studied:</i> U.S.</p> <p><i>Methods used:</i> a quasi-experimental analysis where subjects were treated in a 12-step-based or cognitive-behavioural program</p>	<p>1,774 low-income substance-dependent male veterans who were matched on their history of mental health utilization</p> <p>887 patients entered the 12-step programs and 887 patients entered the cognitive-behavioural programs</p>	<p>Patients in 12-step-based or cognitive-behavioural treatment programs completed a self-administered survey at baseline, one-year and two-year follow-up, assessing substance abuse, psychiatric problems, affiliation with self-help groups, mental health service utilization and costs</p>	<p>The economic evaluation examined the clinical outcomes and healthcare costs of post-treatment self-help group involvement (i.e., 12-step programs on an inpatient basis for 21 to 28 days and offered outpatient continuing care after discharge) for people with mental illness or addictions issues. The evaluation found reduced inpatient days and outpatient visits from the one-year to two-year follow-up.</p>

What are some models that have been attempted to have these individuals reintegrate into the community?	Effectiveness of continuity of care and peer support in supporting people with chronic mental illness during the transition from hospital to the community (20)	<p><i>Publication date:</i> 2002</p> <p><i>Jurisdiction studied:</i> Ontario, Canada</p> <p><i>Methods used:</i> randomized cluster design and critical ethnography</p>	390 patients in 26 psychiatric tertiary care psychiatric wards from four Ontario hospitals	Patients were interviewed at enrolments, one month post discharge, six months post-discharge and one year post-discharge, and data was collected on length of stay and costs	The study found that participants in the intervention group were discharged an average of 116 days sooner than control group participants. Cost data found that those in the intervention group consumed \$12,212,241 less in hospital costs than the group receiving standard care. Intervention participants were found to have non-significant improvements in global quality-of-life measurements, but a significant improvement among quality of life related to social relations. Among those identified in the socially isolated sub-group, participants in the intervention group were found to use significantly less hospital and emergency room services. While improvements were seen across all outcomes in the sub-group analysis, only significant improvements were found in individuals' level of functioning in social relations.
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