

## Assertive Community Treatment: A Promising Mental Healthcare Model in Qatar

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### Abstract

Reducing inpatient admission rates and duration of hospital stay is a key performance indicator for mental healthcare worldwide. In comparison to inpatient care, treatment in community settings is associated with better outcomes, less stigma and cost-effectiveness. Mental health service in Qatar is transforming in community care model with an Assertive Community Treatment (ACT) introduced in 2013.

Data of psychiatric inpatient admissions were collected for a total of 54 patients for one year before and one year after admission to the ACT program. Within one year of ACT follow up, total number of psychiatric inpatient admissions for study participants dropped from 46 to 11, and the mean duration of their inpatient stay (days) dropped from 12.9 to 4 ( $t = 2.6, p = 0.013$ ).

Our findings in Qatar do replicate findings from previous worldwide literature. Expansion of ACT programs is promising for achieving better clinical outcomes and reducing demand on psychiatric beds.

**Keywords:** Assertive Community Treatment (ACT); Psychiatric Inpatient Care; Mental Healthcare; Duration of Inpatient Stay

### Introduction

Community mental health care is a health care approach aiming at reducing the need for inpatient care, treating, and supporting patients with mental illness in community settings including their own home [1]. Since the 1950s, community mental health care models have been flourishing. Compared to institutional care, community care is associated with better clinical outcomes, improved quality of life, cost-effectiveness, and less social exclusion, less stigma and less likelihood of violations of human rights [2,3].

Assertive Community Treatment (ACT) is an intensive and highly integrated model of community mental health care with an assertive outreach provision [4]. ACT is designed to support individuals with severe and enduring mental illness [5]. The principal aims of ACT include maximizing medication compliance; minimizing relapse; enhancing quality of life; improving social and vocational functioning; promoting independent living skills; reducing carer burden; and facilitating community integration [6]. ACT differs from many traditional care models as it emphasizes working with small caseloads (fewer than 20 patients), using a multi-disciplinary framework, home treatment and assertive follow up or outreach [7].

One of the most consistent research findings regarding patients with severe mental illness is that assertive community care reduces the demand for hospital beds. Most studies have shown that this is achieved without any loss in efficacy of treatment [8]. Compared to standard case management, patients receiving ACT were more likely to remain in contact with services, less likely to be admitted to hospital and generally spent less time in hospital, if they needed admission [9].

Reducing the need for inpatient admissions has significant cost implications, and it is now widely accepted that ACT can substantially reduce the costs of hospital care whilst improving outcome and patient satisfaction [8]. This cost reduction in health care provides an explanation for the significant increase in number of patients followed by ACT programs from 210,000 in 1998 to 800,000 in 2003 in the United States [10].

As a result of its booming economy, Qatar has witnessed a steady increase in population over the past 20 years, and the population has tripled in the last decade. The annual population growth rate has far exceeded the official projections by Qatar Statistical Authority [11]. As a result, there has been a mounting pressure on healthcare resources and an increasing demand for acute hospital beds.

Qatar National Mental Health Strategy was launched in 2013 aiming at increasing provision of community and primary care services and subsequently reducing the pressure on acute hospital beds [12,13]. Accordingly, an ACT program has been introduced to follow up patients with severe and enduring mental illnesses. This ACT service provides crisis intervention and follow up care for acutely ill patients aiming at preventing hospital admissions utilizing a nursing key-worker model as a care coordinator and emphasizing the multidisciplinary care approach.

This study attempts to evaluate the impact that ACT service in Qatar had on rates of psychiatric inpatient admissions and on the duration of hospital stay for patients receiving this new model of mental health care.

### Methods

The study focused on the caseload of the community-based ACT team in Qatar mental health service. Admitting patients under the ACT team means allocating a named keyworker (mostly a community psychiatric nurse), a named consultant psychiatrist and relevant multidisciplinary team members (MDT) such as social worker, psychologist or occupational therapist depending on the clinical needs of individual patients. As part of ACT team protocols, patients will be offered an initial home assessment preferably in the presence of a family member, and key family members are considered integral to this model of care. Initial home assessments should identify relevant clinical needs and an MDT care plan will be agreed. Provision of medications and other interventions will be the responsibility of the team and if not in the clinic, then these interventions will take place at home to ensure adherence to treatment plan. Patients and family members are provided with the phone number of the assigned keyworker to ensure smooth communication and to address any concerns. Regular medical reviews are provided according to an agreed schedule as per the initial care plan. Close liaison with primary care and hospital care for physical health issues is part of the ACT team duties. The study aimed at assessing the impact of the above described ACT model of care on psychiatric inpatient admissions in Qatar.

The caseload of the ACT team in Qatar mental health service was reviewed to identify all patients who have been under care of this team for a minimum of one year and had previously attended Qatar generic psychiatric services for a minimum of one year prior to admission to ACT program. A total of 54 patients, fulfilling these criteria, were identified. Paper and electronic medical records of these 54 patients were reviewed by the authors to compare the number and duration of psychiatric inpatient admissions one year before and one year after joining the ACT program (a mirror-image study design). Both voluntary and involuntary psychiatric admissions were included if they fall within the time frame of the study. Non psychiatric admissions were excluded from the study. Patients and their families were contacted to ascertain the inclusion of any psychiatric inpatient admissions outside the State of Qatar during the study duration. Collected data were analyzed using the Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL, USA) and the paired t-test was used to compare the means of duration of inpatient stay and total number of admissions [14]. Statistical significance was assessed using 95% confidence intervals (CIs) or a  $p$ -value  $< 0.05$ . The study was approved by the Institutional Review Board of the Mental Health Hospital, Hamad Medical Corporation in Qatar.

### Results

Most of the 54 patients included in the study were diagnosed with chronic mental illnesses (schizophrenia in 56.4% and bipolar affective disorder in 18.7%), and 61.2% of them were treated with long-acting injectable depot medications. Their mean age was 47 years and male: female ratio was 2:3.

Total number of inpatient admissions for this group in the year before joining the ACT program was 46. This has dropped to 11 admissions in the year after joining ACT program. In other words, the average number of admissions for each of these 54 patients dropped from 0.85 in the year before ACT program to 0.20 in the year after ACT program ( $t = 3.3, p = 0.002$ ). All inpatient admissions for the study participants, before and after joining the ACT program, were voluntary. No psychiatric admissions reported to occur outside the State of Qatar for all participants.

The mean duration of inpatient stay in the year before joining the ACT program was 12.9 days. This has dropped to 4 days in the year after joining ACT program ( $t = 2.6, p = 0.013$ ).

### Discussion

Provision of Assertive Community Treatment (ACT) service in Qatar has impacted positively on key performance indicators (KPIs). The number of inpatient psychiatric admissions has significantly reduced, and the length of hospital stay has significantly shortened for patients receiving care from the ACT service. These findings in Qatar are in line with previous research literature from various parts of the world [15,16].

The rate of admission has been reduced to less than one fourth and duration of inpatient stay has been shortened to less than one third in the first year following care take-over by the ACT team, in comparison to the year before joining the ACT program. A similar study in Scotland showed that ACT provision has led to a 25% and 29% reduction in admission rate and duration of inpatient stay respectively [15,16].

These findings can be explained by several clinical factors related to the ACT service. As part of the ACT program, a community psychiatric nurse (key-worker) is assigned to every patient. This key-worker is responsible for the provision of medications, adherence to medications, regular multidisciplinary follow-up and carers' support. The key-worker ensures immediate provision of crisis intervention aiming at reducing inpatient admissions. Most patients (61.2%) agreed to receive long-acting injectable antipsychotic medications provided regularly by keyworkers.

ACT also has financial advantage. The average cost of inpatient stay in Qatar is around 685\$ per day, which means saving around 559,645\$ annually [13]. In addition to cost reduction, decreasing inpatient admissions and hospital stay means less interruption to patients and families' life and less isolation from society [17,18].

As there is currently one ACT team in Qatar, we believe that, based on our findings, expanding this model of care and provision of more similar teams to serve the increasing population of the country will have a system-wide impact on the mental health care in Qatar, and will lead to a total transformation from an institutional-based to a community-based service as promised by the National Mental Health Strategy of Qatar 2013 [12].

We are encouraged by these findings to evaluate, in future analysis, the impact of the ACT service on other KPIs such as emergency room presentations, and social and occupational integration into society. We are also very keen to see if this reduction in hospitalization and other KPIs is sustained over an extended period (two years and more).

### Conclusion

This work provides clear evidence that ACT service has made a significant impact on psychiatric hospitalization in Qatar and proved to be a successful new model of mental health care in a developing country context. Our findings provide evidence for some positive outcomes of the National Health Strategy implementation in Qatar. These findings are encouraging indicators for Qatar health policy-makers to expand the community-based mental health care including the provision of more ACT teams.

### Ethics Approval

The study was approved by the Institutional Review Board of the Mental Health Hospital, Hamad Medical Corporation in Qatar. All authors certify responsibility for this study.

### Conflict of Interest

The authors declare no conflict of interest.

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