Georgia State Department of Behavioral Health and Developmental Disabilities Partnership with the Satcher Health Leadership Institute at Morehouse School of Medicine

Behavioral Healthcare Systems Improvement Initiative through Integration Approach

Evaluation Report
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Executive Summary

The evaluation of the integrated behavioral health care program assesses the extent to which the program has made progress toward implementing its activities and attaining outcome measures based on established objectives listed below:

1. Assessing and understanding the behavioral healthcare systems of care at Grady Hospital emergency care [both medical and psychiatry] and community primary healthcare
2. Developing and testing improved models of care to increase access to quality healthcare for persons with behavioral health problems
3. Recommending replication strategies for systems’ improvements

Evaluation Methods

Qualitative Data Analysis. Evaluation of the process of the program were assessed through the review of the second and third quarter report and semi-structured interviews with the behavioral health providers of each impact area. The semi-structured interviews assess the perception and behavior of behavioral health provider’s toward the implementation of the integrated care program.

Quantitative Data Analysis. Outcome evaluation focused on outcome measures of emergency care integrated impact area only due to lack of outcome data on other impact areas. Data on emergency care quality metrics from January 2011 to May 2012 were analyzed. Data from January 2011 to August 2012 were used as Pre-intervention and data from September 2011 to May 2012 as Intervention.

Qualitative Results

The integrated behavioral healthcare program psychiatrists had similar perceptions about the program. The implementation of the program has been successful and beneficial as it provided access to mental health providers at primary care centers. Process-wise, all the three impact areas of the behavioral integrated healthcare has initiated and implement activities that are widespread supported by their designated sites.

Quantitative Results

The analysis of the outcome measures suggest that implementation of emergency care integrated program have been effective in achieving some of it objectives. Implementation of the program result in the decline in the trend of the emergency department and psychiatry quality metrics.

These findings suggest that, the behavioral integrated healthcare program have been successful and effective in implementing its activities and achieving its objectives.
Program Description

The program aims at improving the systems of care for persons with behavioral health in Georgia. The three main goals of the program are:

1. Assessing and understanding the behavioral healthcare systems of care at Grady Hospital emergency care [both medical and psychiatry] and community primary healthcare
2. Developing and testing improved models of care to increase access to quality healthcare for persons with behavioral health problems

The major strategies for accomplishing these goals include partnerships, integration of behavioral health and primary care and advancing quality. The program has three key stakeholders that were engaged to join Georgia State Department of Behavioral Health and Developmental Disabilities (DBHDD) and Satcher Health Leadership Institute to form our core partners in this initiative:

1. Department of Psychiatry at MSM
2. Grady Hospital’s Emergency Care Center, Crisis Intervention Services, and Community Primary Health Clinics
3. Community Health Centers (primary care and mental health) involved in developing standard curriculum for integrating behavioral and primary health in their settings

According to SAMHSA 2010 national survey, only 37.9% of adults in the U.S. with mental illness received mental health services in the past year. Majority of people with mental illness seek care with their primary care providers and people living with mental illness are dying at an average age of 53 years in the United States. Findings from two reports Mental Health: A Report of the Surgeon General, and Mental Health: Culture, Race, and Ethnicity, showed primary care providers as key points of entry for children and adults with mental disorders to receive interventions, treatment, or a referral for services. These reports emphasized the need for the primary care providers to
effectively recognize and manage the mental health issues and be knowledgeable of mental health referral sources to help their patients. Furthermore, the Institute of Medicine report showed that in a recent national survey, 60% of the physicians surveyed said that the increase in psychiatric patients seeking care at Emergency Departments (ED) is negatively affecting access to emergency care for all patients by generating longer waiting times and limiting the availability of ED staff and ED beds for other patients. The Georgia State DBHDD estimated that about 60% adults in Georgia with schizophrenia reside in the metro Atlanta area. Many of these adults have dual diagnoses with unaddressed physical health problems. This initiative is focused on improving access to quality health care for persons with behavioral health problems by integrating behavioral health into primary care settings through providers’ education and development of a practice change curriculum, integrating mental health into Grady emergency care center and improving quality of care, including managing care for high utilizers of care at the Grady psychiatric emergency care, as well as embedding psychiatrists in community primary health centers and mobile healthcare center for homeless population.

The program has three impact areas, which are emergency care integrated impact area, primary care-behavioral health integrated impact area, and emergency psychiatric care recidivism impact area.

**Emergency Care Integrated Impact Area**

The goal of this impact area is to develop a fully integrated system of emergency medical and psychiatric care at a large, urban public hospital by applying an integrative model to the Emergency Care Center-Crisis Intervention Service (ECC-CIS) system of care-Grady Health System. The goals of this area are:

1. Develop a model for integration of emergency medical and psychiatric care that can be for used in different organizational setting
2. Implement the integration model and evaluate its impact on target outcome measure
3. Identify and address areas within emergency care systems that require targeted intervention systems improvement in order to achieve successful integration.

**Primary Care-Behavioral Health Integrated Impact Area**

The primary care-behavioral health integrated impact area is divided into transformative leadership curriculum on integrated care model and bi-directional extended medical-psychiatry patient home. The goals of this impact area include:

1. To deliberate diagnostic and psychotropic-focused education for primary care physicians.
2. Psychiatric consultation for patients refractory to first or second order interventions, patients too psychiatrically ill for a primary care setting or diagnostic dilemmas.
3. Seamless patient transfers to the out-patient psychiatry clinic.
4. Reintegration of stable psychiatric patients into primary care clinics.

**Emergency Psychiatric Care Recidivism Impact Area**

Preliminary assessment of emergency psychiatric care recidivism within Grady CIS indicated that patients predominantly have psychotic disorders and significantly disabling co-morbid substance abuse use disorders. Majority of patients who had unmet housing and food needs often went to the CIS involuntarily and frequently required restraints during visits due to violence or aggression. 30% of these patients attended an outpatient’s visit at Grady during the reviewed period and 20% refused all outpatients services. This pattern of help-seeking behavior is problematic due to the consumption of high cost, limited services that contributes to excessive volume demands within an emergency care system. The goals of the emergency psychiatric care recidivism impact area are:

1. Increase the number of high service utilizer patients with individualized treatment plans.
2. Fully characterize subsets of psychiatric emergency care recidivists and identify commonalities.
3. Develop and implement categorical treatment protocols for recidivist subgroups.
4. Educate and train providers on triage or treatment protocols and identification of patients that meet categorical criteria for recidivist implantation.

**Evaluation Methodology**

This evaluation examined both the process of implementing integrated behavioral health care at the three impact areas through semi-structured interviews with the behavioral health providers of each impact area, review of the second and third quarter reports, as well as the outcomes through aggregate data from the emergency care integrated impact area. The purpose of the semi-structured interviews (see Appendix A) was to assess at each impact area, the behavioral health provider’s perception and behavior toward the implementation of the integrated care program, accomplishments and barriers. Behavioral health providers from each impact area participated in a thirty-minute interview and the interviews were summarized by strengths and limitation of the integrated behavioral health care program. Audio-recorded Interviews were transcribed verbatim. Data analysis was facilitated by NVivo 10 (QSR International, Melbourne, Australia) (a qualitative computer data management package). Names and other personal identifiers were removed from transcripts before they were entered into NVivo 10. A code list was developed by reading a subset of the transcript to generate broad thematic codes. The code list was modified and refined as more transcripts were reviewed and results were organized according to emergent key themes. Themes were illustrated with verbatim quotes.

Data on emergency care quality metrics were provided from January 2011 to May 2012. Data from January 2011 to August 2012 were used as control or comparison (Pre-intervention), while data from September 2011 to May 2012 (Intervention) was considered implementation data. Outcomes focused on emergency care quality metrics for two quality metrics: emergency department quality metrics and psychiatric quality metric. Summary findings from both process and outcome component of the integrated behavioral care evaluation are presented in this report.
The evaluation was conducted by Nana Wilson and Victor Ede. The evaluation was funded by Georgia State Department of Behavioral Health and Developmental Disabilities Partnership with the Satcher Health Leadership Institute at Morehouse School of Medicine.

**Evaluation Findings**

**Process Evaluation**

Process evaluation focused on the activities that the three impact areas engaged in the integrated behavioral care program as well as the perceptions of behavioral health providers about the overall program. Below gives the results of the process evaluation from each impact area.

**Emergency Care Integrated Impact Area**

Psychiatric Fast Track Service (PFTS) continued to maintain consistent activities for the program. Quantitative data has been collected on every patient encountered and entered into a database. Demographic and clinical data is being collected to better characterize the population receiving the Fast Track service. New licensed clinical social worker positions (LCSW) has been approved to cover the evening and overnight/weekend shifts, which would allow for better comparisons with the prior system of care.

Several areas have been identified as target areas for initiatives to improve quality that would directly relate to the integration efforts. These target areas include care for patients with underlying psychiatric issues who present to the Grady ECC through the detention system, and medical care for patients with co-morbid acute medical psychiatric issues. Sustainability activities included training of additional existing CIS LCSW staff members in the PFTS model of care, and engaging in ongoing discussion with clinical and administrative leadership regarding financial sustainability planning.

A revised medical clearance protocol was developed to facilitate the transfer of patients from the Emergency Care Center (ECC) to the Crisis Intervention Service (CIS) to
improve on the existing guidelines which were aimed at the transfer of patients from the CIS to the ECC.

**Primary Care-Behavioral Health Integrated Impact Area**

**Bi-directional extended medical-psychiatry patient home**

The primary care integration have identified a strategy to demonstrate the effectiveness of the treatment algorithms in various settings. There are plans to evaluate the mental health algorithms among psychiatry consultation clinical sites and compare outcomes to integration curriculum control sites. There has been development of a Memorandum of Understanding (MOU) between SHLI, Morehouse Medical Association, and St. Joseph’s Mercy Care to provide psychiatric consultation. St. Joseph clinic which serves homeless populations is screening all new clients for depression using the PHQ-2 and for other mental health disorder using questionnaire developed by St. Joseph’s Mercy Care.

**Transformative leadership curriculum on integrated care model**

A third module on sustainability has been developed and tested by the five Georgia participating community health centers in the curriculum development. These sites are Asa G. Yancey, Neighborhood Union, North Fulton community primary health centers, con-Douglas and McIntosh trail Community service Boards. The module consist of billing codes, claims management and contracting process that support sustainability of providing behavioral services in community primary health center and clinics. The following leadership development trainings developed to the five participating community health centers:

1. Fundamentals of educating providers in their community as a learning collaborative for curriculum development
2. Leadership and Integration of Behavioral Health and Primary Care
3. Introduction of the practice change improvements
4. The Quality Improvement Process of Integrated Care
5. The Four Disciplines of Execution
6. Fundamentals of Performance Accountability and Score Board
Emergency Psychiatric Care Recidivism Impact Area

Emergency psychiatric care recidivism impact area identified groups of recidivists needing categorical treatment protocols, and refined the criteria for inclusion in these recidivist categories to include any patients who has had three or more visits to the mental health crisis intervention services at Grady. Protocols for each category were developed with the exception of the protocol for incarcerated patients. The following were the categories of recidivists for the protocol development:

- Suicidal recidivists
- Recidivists with addictive disorders
- Incarcerated recidivists
- Unengaged recidivists
- Recidivists needing medication refills
- Recidivists who are not adherent to medications
- Recidivists who need more community support
- Homeless recidivists
- Recidivists seeking food

Experiences and Perceptions about the Integrated Behavioral Care Program

The behavioral health providers discussed their experiences and perception about the integrated behavioral health care program. Overall, the behavioral health providers pointed many of the same strengths; they identified similar factors as facilitators encountered while implementing integrated behavioral care. However, the limitations indicate unique challenges each of the facilitators faced in implementing integrated care at their respective impact area sites.

Strengths of the integrated behavioral care program

All the behavioral health providers said that the integrated behavioral care program was beneficial and agreed that the initiative has done very well. One provider stated “……I think we’ve done a really good job this year. [Emergency care integrated impact area] program started out with the ECC fast track and it seemed like they were able to show
some effect of good results that the pilot project was very effective and pretty early on during the pilot project.” Most of the behavioral health providers said that it was helpful to have a mental health provider co-located in the primary care site, and that though more time would be needed to be able to demonstrate success, the program has been successful overall. This success is evidenced by:

1. Increase in the comfort level of the primary care provider when addressing mild and moderate mental health conditions; the behavioral health providers collectively agree that the primary care providers can now recognize and appropriately treat mild to moderate mental illness, and they attribute this improvement to the direct impact of the program.

2. Increased access to mental health care; direct consultation between the psychiatrist and the primary care providers aided in improving mental health access at the primary care practice. The discussions indicated that as the primary care providers were brought up to speed on evidence-based management of common mental illnesses, patients could readily access mental health services through the primary care provider’s office since it is a place they are familiar with and have a trusting relationship with their primary care providers. This decreased the stigma of mental health access by the patients who have mental health needs. One of the providers stated “…I also think that at our primary site, the ability of primary care providers to recognize and appropriately treat mild to moderate mental illness.....I think is hugely successful and has a direct impact on the patients that we’re working with because a lot of these patients would never come to the attention of the psychiatrist, and they are now being able to be treated by somebody they know and trust which is their primary care provider, and be able to receive good quality mental health treatment from the primary health providers because they have direct consultation with the psychiatrist.”

3. Improvement in the external referral process because “.... instead of saying okay refer to psychiatry and then that patient never follows up and doesn’t have
anybody caring about that, my presence there and actually kinda picking up on that role has really helped improve the external access to mental health care.”

In addition, most behavioral care providers were in agreement on the facilitators they encountered while implementing the integrated behavioral care program. The behavioral care providers said the medical directors, administrators, primary care providers and practice managers at the integrated care sites showed increased interest and commitment, which contributed to the success of the quality improvement initiative. As stated by one of the behavioral health care providers, “….definitely the willingness of the medical director to stick with the plan and to be part of the solution has been a major facilitator….he has encouraged the providers and rallied their support at times when maybe they were less interested or had waned in their support… so his commitment to the program has been really important.” Another provider affirmed the administrators’ support for the integrated behavioral care program by stating that “……. I think one strength is that the administrators at Grady hospital and within the Department of Psychiatry; Michael Clays, Brandon New and Chris Colt have all been very supportive of our quality improvement projects at Grady, both with emergency care and recidivism projects….I think that there have been some differences in opinion about how to go about implementing the projects but they have been very supportive overall of improving the quality of the services that we’re providing and I think that has being a huge asset.”

Limitations of the integrated behavioral health care program

Most of the obstacles encountered while implementing the integrated care were peculiar and varied from one site to another. However, there were two limitations discussed by most of the behavioral health providers: (1) Issues with referral / referral logistics; the psychiatrists noted poor referral procedures and lack of optimal referral guidelines at their sites as significant hindrances to implementing integrated care. One of them said “….. An obstacle has probably been logistics because it’s not traditional referral… working through logistics, trying different things…. although it’s nice to be flexible, sometimes the providers get confused as to who they are supposed to be sending to me, how to make appointments… we just recently decided to have blocks of
appointment time cos I thought I was not getting enough referrals so I tried making it easier for the providers to fill the appointment and that seemed to have helped the providers to send me more of the cases for case review…so there’s no great way of doing it so we have to be flexible and sometimes that can be difficult.”

(2) Challenges with attitudes/ perceptions towards change of care; another common issue was reluctance to embrace fully, the integrated care concept in most primary care practices. Most sites were unwilling to change their cultures, attitudes and behaviors which made it difficult for the behavioral health providers to initiate integrated care at potential primary care sites, and also to implement the integrated care model at designated sites.

In a statement by one of the psychiatrists, she noted “……I think that the Crisis Intervention Services - that is the psychiatric emergency service at Grady, [we] experienced that they were very reticent to change their work flow and to really kind of embrace change in terms of quality improvement…so I think we experienced a lot of barriers there with being able to make that system work more efficiently and therefore it makes it harder to implement any new project that would rely on a more efficient system in the CIS...I think that was a big issue...and a lot of the issue I think was with some of the psych who were working in the CIS there....they wanted to mostly go back to former models that they had used, feeling that that had worked better instead of implementing kinda new suggestions that we were making...and I think it was difficult in engaging them on kind of changing that.”

Furthermore, efforts to integrate behavioral care at three primary health sites (Kirkwood, Internal Medicine Pods at Grady, and Cardiology at Grady) by one behavioral health provider failed after nine months of attempting to collaborate with the primary health centers. The behavioral health provider described this outcome as frustrating and attributed the failure to the primary health care sites’ lack of readiness to integrate due to:

1. Concerns that the site would end up seeing more psychiatric patients than they want to see should they integrate.
2. Concerns that psychiatric patients were drug abusers and that the site’s waiting room would turn to a detox and or substance abuse treatment center if they integrate.

3. Concerns that mental health care integration may be detrimental to their pediatric practice and they may lose their pediatric population.

4. Concerns that visits would take longer if they were to address mental health issues.

5. Some of the providers that rotated in the clinics didn’t want to be general internist but sub-specialist, and felt that they would not need additional psychiatric training to become sub-specialists.

6. Concerns that the burden of mental illness was so great that they much rather preferred a psychiatrist come and manage the patients than the primary care providers themselves. These barriers collectively contributed to failure to find a primary care site to integrate behavioral care by the mental health provider.

At the Asa Yancey primary care site, the need for continuous funding was discussed by the lead psychiatrist as important in sustaining integrated care efforts. It was challenging to maintain a nucleus of support without consistent funding for integrated services once the grant expired. The mental health provider stated that “…..we were originally…at the site they had a grant that provided a case manager which is a very useful service and very important in integration cos a lot of times the physician’s time is the most expensive and most difficult time to get, and a lot of the coordination for the patient can be best handled by the case manager…and so for the first six months we did have a case manager but then, that grant expired and then they decided to renew the grant at a different site and we lost the case manager…. that was a really big obstacle and we are still trying to find ways to fill that gap in what she was providing for patients in terms of screening and also follow-up and referral coordination”.

The Saint Joseph’s Mercy Care encountered significant challenges in terms of getting the Memorandum of Understanding signed by relevant entities in order for integrated care to commence. This delay resulted from uncertainties on the part of the
administrators as to whether or not the program would be successful and beneficial. The behavioral health provider stated “......at my primary care site, a big challenge was there were...in terms of getting the MOU signed, there were a number of entities that needed to put work into the MOU and I think initially not all of the entities were sure that they wanted to go forward with the MOU... so I think Morehouse School of Medicine wasn’t sure that it wanted to invest the time into putting this MOU together if it wasn’t going to result in something good and successful for Morehouse School of Medicine. Ultimately, our department chair decided and other higher level individuals decided that it will be beneficial to go ahead and go through with the MOU and it just took a long time for the MOU to get signed...so this was a big barrier in getting the necessary ground work or steps accomplished in order to just be able to start providing clinical services at my primary care site.” Although the delay in signing the MOU seemed to have posed an obstacle to the timely initiation of integrated care at Saint Joseph’s Mercy Care, this wait time accorded the behavioral health provider an opportunity to engage the primary care providers early with educational tools for integrated behavioral care. The primary care providers were able to provide mental health care because they developed a method of working with the existing clinic staff and getting their clinical needs met when they do not have clinical access to the psychiatrist. Table1 shows the strength and limitations of the Integrated Behavioral Care Program Identified in the Semi-Structured Interviews with Lead Behavioral Health Providers.
<table>
<thead>
<tr>
<th>Strengths</th>
<th>Grady ECC/CIS</th>
<th>Asa Yancey Primary Care</th>
<th>Saint Joseph’s Mercy Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good progress with development of categorical treatment plans within the recidivism project.</td>
<td>Commitment and support for integrated care by the medical director, other mental health providers and staff.</td>
<td>Improved external referral process.</td>
<td>Educated primary care provider and nurse practitioner about mental health services and use.</td>
</tr>
<tr>
<td>Interest and support from the administration to improve quality of service within the ECC through the fast track and recidivism projects.</td>
<td>Increase comfort levels of the primary care providers with addressing mild and moderate mental health conditions.</td>
<td>Increased comfort levels of the primary care providers with addressing mild and moderate mental health conditions.</td>
<td>Collaboration between the lead behavioral health providers of each impact area (clinical team); facilitated critical thinking about their individual projects and problem solving.</td>
</tr>
<tr>
<td>Addition of other services that help support integrated care - applying for grants to help fund screening efforts.</td>
<td>Additions of other services that help support integrated care - applying for grants to help fund screening efforts.</td>
<td>Additions of other services that help support integrated care - applying for grants to help fund screening efforts.</td>
<td>Additions of other services that help support integrated care - applying for grants to help fund screening efforts.</td>
</tr>
<tr>
<td>Immediate access to consultative services; presence of an embedded psychiatrist.</td>
<td>Immediate access to consultative services; presence of an embedded psychiatrist.</td>
<td>Immediate access to consultative services; presence of an embedded psychiatrist.</td>
<td>Immediate access to consultative services; presence of an embedded psychiatrist.</td>
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<tr>
<td>Weekly collaboration group meetings for supervision and to discuss one or two mental health cases.</td>
<td>Weekly collaboration group meetings for supervision and to discuss one or two mental health cases.</td>
<td>Weekly collaboration group meetings for supervision and to discuss one or two mental health cases.</td>
<td>Weekly collaboration group meetings for supervision and to discuss one or two mental health cases.</td>
</tr>
<tr>
<td>Limitations</td>
<td>Difficulty with identifying who recidivists were</td>
<td>Lack of consistent funding to maintain integrated care efforts; leads to work flow disruption when grant ends</td>
<td>Delay with signing the Memorandum of Agreement to provide clinical services</td>
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<tr>
<td></td>
<td>CIS was reticent to change their work flow and slow to embrace change in terms of quality improvement</td>
<td>Lack of clarity on the role of the consultant psychiatrist; causes the primary care providers to refer cases out instead of co-managing with the embedded psychiatrist</td>
<td>Miscommunication between the clinician, nurse practitioner and counselor about the goals of the project</td>
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<td></td>
<td>Confusion between the clinical team and the project investigator in terms of implementing aspects of the program</td>
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Outcome Evaluation
Process evaluation focused on the activities that the three impact areas engaged in to the integrated behavioral health care as well as the perception of each behavioral health providers of the impact areas on the program. The question asked by the outcome evaluation is: “How effective were there activities? To answer this question, data were collected and analyzed. Due to lack of data from primary care-behavioral health integrated impact area, and emergency psychiatric care recidivism impact area, the outcome evaluation focused on the emergency care integrated impact area.

The main outcome measures for Emergency care integrated impact area are:
1. Improvement in defined quality metrics within the emergency care system (reduction in use of restraints, reduction in wait times, reduction in adverse medical events resulting from inadequate medical clearance, improved adherence to 1013 form completion, reduction in inappropriate 1013 initiation).

2. Increased access to lower levels of care when appropriate (improve linkages to outpatient services and provide timely disposition outpatient care).

3. Increased utilization of lower levels of care when appropriate (improve linkages to outpatient services and provide timely disposition outpatient care).

Results
Detailed table presenting the pre-intervention and intervention emergency care integrated impact area quality metrics are presented in table 2. The emergency care quality metrics data were provided from January 2011 to May 2012. Data from January 2011 to August 2011 were used as “pre-intervention” and September 2011 to May 2012 as “intervention”. The quality metrics where divided into emergency department quality metrics and psychiatric quality metrics.
**Emergency Department Quality Metrics**

Overall, there was a decline in the trend of the emergency department quality metric from January 2011 to May 2012 (Figure 1). However, the decline does not seem to be as a result of implementation of integrated care in September. Nevertheless, when we compared the average of quality metric of pre-intervention with intervention, there was decrease in mean quality metric which can be attributed to implementation of integrated behavioral care.

Statistically significant mean difference in time to triage were observed comparing pre-intervention to intervention (Figure 2). There was about 70% decline in average time to triage after the implantation of emergency care integrated impact area, p=0.0232 (Table 2). The average time to triage before implementation of integrated care in this impact area was 91.90±29.08 min compared to 30.34±3.54 min after implementation of the program (Table 2, Figure 2).

When comparing time of admission disposition to departure before and after implantation of the program there were about 8% decline in average time (Table 2, Figure 3). However, this decrease in time was not statistically significant (Table 2).

Average time before the start of the program was 131.80±6.83 min and 121.60±3.97 min after the program was initiated (Table 2).

The average time from disposition to discharge before the program was 57.43±5.34 min, and 52.27±2.43 min after the implementation of the program (Table 2). This shows about 9% decline in average time as a result of the emergency-behavioral integrated care program (Figure 4, Table 2). However this decline was not statistically significant.
<table>
<thead>
<tr>
<th>Metrics</th>
<th>Pre-Intervention</th>
<th>Intervention</th>
<th>Mean Difference</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emergency Department Quality Metrics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency Dept. Length of Stay (hours)</td>
<td>8.11±0.19</td>
<td>7.76±0.20</td>
<td>0.35 (4.31% Decrease)</td>
<td>0.2481</td>
</tr>
<tr>
<td>Time to Triage (min)</td>
<td>91.90±29.08</td>
<td>30.34±3.54</td>
<td>61.56 (66.98% Decrease)</td>
<td>0.0232</td>
</tr>
<tr>
<td>Disposition to Discharge (min)</td>
<td>57.43±5.34</td>
<td>52.27±2.43</td>
<td>5.16 (8.98% Decrease)</td>
<td>0.3351</td>
</tr>
<tr>
<td>Admission Disposition to Departure (min)</td>
<td>131.80±6.83</td>
<td>121.60±3.97</td>
<td>10.20 (7.74% Decrease)</td>
<td>0.1877</td>
</tr>
<tr>
<td><strong>Psychiatry Quality Metrics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatry Length of Stay (hours)</td>
<td>8.00±0.19</td>
<td>7.25±0.25</td>
<td>0.75 (9.37% Decrease)</td>
<td>0.0434</td>
</tr>
<tr>
<td>Length of Stay in Restraints (hours)</td>
<td>6.48±0.16</td>
<td>5.58±0.29</td>
<td>0.90 (13.89% Decrease)</td>
<td>0.0285</td>
</tr>
</tbody>
</table>
Figure 1. Trend in emergency department quality metrics (time to triage, disposition to discharge and admission disposition to departure) before (pre-intervention) and during (intervention) implementation of emergency care integrated impact area.
Figure 2. Comparison of average time spent by patients at the emergency department before triage. * represent a p value < 0.05.

Figure 3. Comparison of average time spent by patients at the emergency department from admission disposition to departure.
Figure 4. Comparison of average time spent by patients at the emergency department from disposition to discharge.
**Psychiatry Quality Metrics**

The trend analysis of the psychiatry quality metrics indicate a drastic decline which can be attributed to the initiation of the emergency-behavioral integrated care activities (Figure 5).

The average total length of stay by patients at the emergency department decreased by 4% after initiation of the program (Table 2) with average time of 8.11 ± 0.19 hours before and 7.76 ± 0.20 after the start of the program, p = 0.2481 (Figure 6, Table 2).

The length of stay and use of restraints decreased significantly by 9% and 14% respectively after the integrated care program was implemented (Table 2). The average length of stay was lower after the initiation of the emergency-behavioral care integration program (8.00 ± 0.19 versus 7.25 ± 0.25 hours) (Figure 7, Table 2). Figure 8 shows the average number of restraints use with 6.48 ± 0.16 before the start of emergency-behavioral care integration, and 5.58 ± 0.29 after initiation of the program (Table 2).

With regard to psychiatry volume, there were a total of 4329 patients from January 2011 to August 2011 with about 7% (297) restraint use and 4867 patients from September 2011 to May 2012 with about 5% (275) restraint use (Table 3). There was statistically significance 2% decrease in restraint use from pre-intervention to intervention, X2(5.549), p = 0.018 (Table 3).
Figure 5. Trend in psychiatry quality metrics before (pre-intervention) and after (intervention) implementation of emergency care integrated impact area.
Figure 6. Comparison of average total length of stay by patients at the emergency department.

Figure 7. Comparison of average length of stay by patients at the psychiatry department. * represent a p value < 0.05.
Table 3. Psychiatry Volume and Restraint Use

<table>
<thead>
<tr>
<th></th>
<th>Pre-Intervention</th>
<th>Intervention</th>
<th>% Change in Restrainment Use</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychiatry Volume</td>
<td>4329</td>
<td>4867</td>
<td>2% Decrease</td>
<td>0.018</td>
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<td>Restraint Use</td>
<td>297 (7%)</td>
<td>275 (5%)</td>
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</table>

A p value of < was considered significant

Figure 8. Comparison of average length of stay by patients in restraints. * represent a p value < 0.05.
Discussion

The integrated behavioral healthcare program aims at improving the systems of care for individuals with behavioral health problems. The strategy for the program is to form partnerships and utilize integration of behavioral health and primary care in assessing and understanding the behavioral healthcare systems of care at Grady hospital emergency care and community primary healthcare. Furthermore, the program is focused on developing improved models of care to increase access to quality healthcare for individuals with behavioral health problems. The evaluation of the behavioral integrated care focused on the process and outcome measures of the three impact areas of the program.

The lead psychiatrist from each impact area had similar perceptions about the program. However, there were unique challenges encountered by each impact area during the implementation of the program. The implementation of the program has been successful and beneficial as it provided access to mental health providers at primary care centers. Implementation of the integrated care program has enhanced the ability of primary care providers to recognize and appropriately treat mild to moderate mental illness which has increased access to mental health care. Consultation between the psychiatrist and the primary care providers helped in improving mental health access at the primary care practice. This enables the patients to readily access mental health care at the primary health care sites through the providers that they have trusting relationships with.

Although the program has been helpful in providing access to mental healthcare at primary health centers, there are a number of obstacles affecting the effectiveness of the behavioral healthcare integrated program. There is lack of effective referral procedures and guidelines at the primary healthcare center that limit the implementation of the integrated care. The primary care providers often get confused as to which patients need to be sent to the psychiatrist and what procedures or guidelines need to be followed. In addition, some primary care providers were unwilling to accept the concept of integrated behavioral health care into their primary care practices. Some
primary care practitioners were reluctant in changing their cultures, attitudes and behaviors toward integrated care which made it difficult for behavioral care providers to initiate and implement integrated care model at the primary care sites. The hesitance on changing attitude and behavior can be attributed to the perceptions that some of the primary care centers may lose their pediatric population when they implement the mental health care at the site, which will be detrimental to their pediatric practice. Others were concerned that if they integrate behavioral care, their waiting rooms will turn into substance abuse centers since psychiatric patients tend to be drug abusers. Moreover, there were concerns that visitations may take longer if they addressed mental health issues.

Process-wise, all the three impact areas of the behavioral integrated healthcare has initiated and implement activities that are widespread supported by their designated sites. The primary care-behavioral health aspect of the program has identified strategies to demonstrate effectiveness of treatment algorithms and there has been development of a Memorandum of Understanding between SHLI, MMA and St. Joseph’s Mercy Care which serves homeless population to provide psychiatric consultation. Furthermore, a third module has been developed and tested at the five Georgia participating community health centers. However, an evaluation result on the outcome measures of this impact area is not available due to lack of data. Although the activities of the primary care-behavioral health integrated impact area has been implemented, there were significant obstacles that made such integration extremely difficult. These obstacles include: provider disinterest, the three primary care clinics having different operating procedures with different levels of integration engagement, apathy to incorporate rating scales despite having training sessions and supervision, and failure to obtain momentum. Additionally, there was lack of method for formal referrals to Grady Intake/Mental Health, and patients were hesitant to go as a walk-in because of the fear of not getting the help they needed.

Likewise, the emergency psychiatric care recidivism aspect of the behavioral integrated healthcare program lack data on outcome measures which resulted in not evaluating
these measures. Nevertheless, this impact area has refined the criteria for inclusion in recidivist categories and has identify groups of recidivist needing categorical treatment protocols. 15 recidivists who have had more than 12 visits to CIS in the past 12 month has been identified however, individualized treatment plans have been created for only two of these recidivists. Attempts were made to include psychiatrists and clinicians from multiple areas in which these 15 recidivists have received care. Few psychiatrists were motivated to add individualized treatment planning meetings to their already overloaded schedules.

The PFTS of the emergency care integrated impact are has of the program has developed database of demographic and clinical information of the patients encountered to better characterized the population receiving the fast track service. Targeted areas such as care for patients with an underlying psychiatric issues who present to the Grady ECC through the detention system and medical care for patients with co-morbid acute medical psychiatric issues has been identified for initiatives to improve quality that directly relate to integration efforts. In addition, revised medical clearance protocol has been developed to facilitate the transfer of patients from the ECC) to the CIS to improve on the existing guidelines of transferring patients from the CIS to the ECC. Although there were limitations on obtaining data on outcome measures of this impact area, there were some data available that suggest that implementation of emergency care integrated program have been effective in achieving some of it objectives. Implementation of the program result in the decline in the trend of the emergency department quality metrics although it not statistically significant. The program resulted in 70% decline in average time the patients are present at the ED to triage (about 30 minutes) which is below the targeted goal of 60 minutes. In addition, the average time of admission disposition to departure reduced by 8% after the implementation of the program. However, this reduction from about 132 minutes to about 121 minutes was still about the target goal of 60 minutes for the program. Furthermore, the average time for patient from disposition to discharge decreased from about 57 minutes to 52 minutes which is also above the target goal of 30 minutes. The total average length of stay by patients at the ED decreased by 4%. Although the
program did not achieve target goals on some of the ED quality metrics, the decline indicate improvement in these metrics which is attributed to the implementation of the program.

The strength in the implementation of the behavioral integrated healthcare program/ emergency care integrated impact area was pronounced on its effects on the psychiatry quality metrics. There was a statistically significant decline in the psychiatry quality metrics after the implementation of the program. The average length of stay at the psychiatry decreased by 9% after the program was implemented. The program reduced the average time a patient spent in restraints by 14%. Additionally, there was a 2% reduction in restraint use after the implementation of the program.

These findings suggest that in part, the behavioral integrated healthcare program have been successful and effective in implementing its activities and achieving some if its objectives. Moreover, the trend indicate that the program is on the right path in achieving its overall objective of improving the systems of care for individual with behavioral health problems by providing increased access to quality behavioral health care at Grady hospital emergency care and community primary healthcare.

**Recommendation**

1. The limitations of each impact area and the behavioral integrated health care as a whole should be addressed to strengthen the program and enhance the effectiveness of each impact area.

2. Data on outcome measures of each impact areas should be collected to enable successful future evaluation.

3. The data on outcome measures used for this evaluation were based on aggregated data which limit the scope of the evaluation. Appropriate procedures should be established to allow individualized data on outcome measures for future evaluation.
4. Evaluation questions (see Appendix B) developed need to be addressed to complete the evaluation of all the three impact areas.

5. The use of an Integration Activities Assessment tool to capture the type and frequency of activities that reflect the integration of primary care and behavioral health at Asa Yancey Family Practice Clinic and St. Joseph’s Mercy care sites. The activities include number of patients treated, number of consultations between behavioral health providers and primary care staff, and time spent by behavioral health providers on-site. Having this data on a quarterly basis as part of the quarterly report would be ideal. Furthermore, inferences from this data would help establish minimum benchmarks for integrated behavioral care activities for the embedded psychiatrists in the long term (see Appendix C)
Appendices

Appendix A. Semi-structured interview questions/guide

Appendix B. Evaluation questions and sub-questions

Appendix C. Integration activities assessment tool
Appendix A. Semi-structured interview questions/guide

1. What are your perceptions of the overall implementation of the integrated behavioral care program?

2. What obstacles have you encountered while implementing the integrated behavioral care program?

3. What facilitators have you encountered while implementing the integrated behavioral care program?

4. Do you think the integrated behavioral care program has been successful? Unsuccessful? Why?

5. What changes have you been able to sustain? Why?

6. What would you change if you had to do it over again?

7. Do you believe the program has improved the care that patients have received? What pieces of this integrated care program have made a direct contribution to that change?
Appendix B. Evaluation questions and sub-questions

The questions and sub-questions for this evaluation are divided into impact areas.

*Emergency care integrated impact area*

1. Is the integrated model developed and implemented?
   a. What are the programs activities and events?
   b. How is the model delivered?
   c. How well are the clinicians delivering the integrated model?
   d. Do all the patients have access to the integrated model?

2. Have areas within the emergency care system that required targeted intervention for systems improvement been identified and addressed?
   a. What are the areas within the emergency care system that require targeted intervention?
   b. How many of the identified areas have been addressed?
   c. What processes or activities were performed to address the issues?

3. What are the clinician’s and nurse’s viewpoints of the integrated model?
   a. Do the clinicians have knowledge on the integrated model?
   b. What is their degree of interest towards the model?
   c. How frequently do patients participate in the model?

4. What do clinicians and nurses do differently as a result of the integrated model?
   a. Are the patients benefiting from this model?
   b. What do clinicians and nurses learn, gain or accomplish from this model?

5. Has the quality metric within the emergency care system improved?
   a. Is there less use of restraint?
   b. Is there a reduction in wait times?
   c. Has the adverse medical events reduced?
   d. Is there a reduction in inappropriate 1013 initiation?
   e. Is there improvement in adherence to 1013 form completion?
6. Is there increase in access or utilization of lower level care?
   a. Has the referral to the community based clinic increased?
   b. How many patients were referred?
   c. How many patients attended their referral appointments? (Pre/ Post)
   d. What are the numbers of out-patient attendance? (Pre/ Post
   e. Are the disposed out-patients seen on time?
   f. How many unstable psychiatric patients are seen in the emergency
department and transferred to the psychiatric emergency service? (Pre/Post)
   g. How many stable psychiatric patients with medical needs were transferred
   from nurse practitioner psychiatrist to emergency department? (Pre/Post)
   h. How many psychiatrically and medically stable patients were transferred
to out-patients services?
   i. What are the processes of referral?
   j. Do patients experience better health outcomes when referred?

7. Has targeted intervention for detention patients developed and implemented?
   a. What are the components or activities of the intervention?
   b. How was the intervention delivered?
   c. How many patients were in detention?
   d. How many patients in detention received the intervention?

Primary care-behavioral health integrated impact areas
A. Transformative leadership curriculum
   1. Has cultural competencies that addresses vulnerable populations been added to
      the model?
      a. What are the clinicians doing differently as a result of the addition of the
         cultural competencies?

   2. Has the algorithm been tested?
a. What is the clinician’s degree of interest in the algorithm?
b. Are the clinicians competent in using the algorithm?
c. Have there been improvements in practice change in the five participating community health centers through the collaborative learning?
   i. What are the activities for these improvements?
   ii. What are the measurement matrices for improved practice changes in the five participating community health centers through the collaborative learning?
   iii. Does the improved practice change benefit the patients?

B. Bidirectional extended medical-psychiatry patient home
   1. Has deliberate diagnostic and psychotropic-focused education for primary care physicians initiated?
      a. What are the activities for the education and diagnostic processes?
      b. How is the training delivered?
      c. What are the clinicians’ viewpoints on the training?
      d. Have the skills gained in the training contributing to better patient’s outcome?
      e. Can clinicians make quick diagnosis and simplify medicine formulary based on this training?
      f. Are the baseline clinicians’ prescribing practices known?

   2. Has 2-tier consultation model developed and implemented?
      a. How often do patients use direct phone consultation?
      b. How many patients use the direct phone consultation in a month?
      c. Does the phone consultation lead to prompt intervention or better outcomes?
      d. How many of patients visit the primary care clinic with advanced psychiatric needs?
      e. How long does it take before the patient sees an assigned clinical psychiatrist? (Pre/ Post)
f. How many patients are seen at the psychiatric clinic as referred cases from the primary care clinic? (Pre/Post)

g. How many psychiatric patients are transferred to the satellite psychiatric clinic from the Psychiatric clinic? (Pre/Post)

h. What is time until disposition from psychiatric clinic to satellite clinic? (Pre/Post)

i. Number of satellite psychiatric clinics

j. Number trained social workers at satellite psychiatric clinics

k. Has the weekly individual clinic visits and supervision to assist primary care physician in managing complex patient been initiated?
   i. Does this enhance patient outcome?
   ii. What are the primary care physician’s perception about the visits and supervision?

3. Are patients with psychiatric needs referred to appropriate psychiatric clinic?
   a. How many patients were identified?
   b. How many were referred?
   c. Do they make it or report to their appointments
   d. Do they have access to quality care when they are referred?
   e. Do they experience better health outcomes when they are referred?
   f. Do clinicians discuss the reason for referral with the psychiatric provider?
   g. Do clinicians follow up on the referral?

4. Do patients have access to mental health services within the community?
   a. What is the frequency of patients seen by mental health specialist?
   b. How many patients’ mental health needs are met?

5. Has primary care provider knowledge on mental issues improved?
   a. What is the prescription pattern of the clinicians?
   b. What is the clinician’s degree of interest in the training?
Emergency psychiatric care recidivism impact area

1. Has individualized treatment plan for high service utilizers increased?
   a. How many patients were high utilizers?
   b. How many high utilizers were integrated into the individualized plan?

2. Has the categorical treatment protocol for recidivism sub-groups been developed and implemented?
   a. What are the treatment protocol activities?
   b. Are the clinicians competent in delivering the protocol?
   c. Do all recidivists have access to the categorical treatment?
   d. How many recidivists were identified?
   e. How many of the identified recidivists received the categorical treatment?

3. Has the recidivism rate for identified patients reduced?
   a. How many “repeat visit” patients were identified?
   b. What is their frequency of visit before and after the treatment?
## Appendix C. Integration Activities Assessment Tool

### Integration site…………………………… Your Name……………………………

**Quarter**……………………………………….. **Fiscal Year** ……………………………

<table>
<thead>
<tr>
<th>Activity</th>
<th>Wk1</th>
<th>Wk2</th>
<th>Wk3</th>
<th>Wk4</th>
<th>Wk5</th>
<th>Wk6</th>
<th>Wk7</th>
<th>Wk8</th>
<th>Wk9</th>
<th>Wk10</th>
<th>Wk11</th>
<th>Wk12</th>
<th>Wk13</th>
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<tbody>
<tr>
<td>(1) <strong>Potential target population</strong> (total population eligible to receive service from integration program - active charts in integrated care site)</td>
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<td>(2) Number of patients that are <strong>screened</strong> for behavioral health services through the integrated behavioral care program</td>
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<td>(3) Number of patients that receive behavioral health <strong>treatment</strong> through the integrated behavioral care system</td>
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<td>(4) # of behavioral health <strong>appointments</strong> conducted by providers/staff of the integrated behavioral care program</td>
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<tr>
<td>(5) # of behavioral health</td>
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<tr>
<td>appointments referred out by integrated care providers/ staff</td>
<td>(6)#of contacts (consultation/ collaboration/communication) between behavioral health provider/ case manager and primary care staff/ physicians that were spent discussing patients</td>
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