



Greater Columbia Behavioral Health

**Mental Health Division
External Quality Review Report**

December 2009

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Presented by

**Acumentra Health
2020 SW Fourth Avenue, Suite 520
Portland, Oregon 97201-4960
Phone 503-279-0100
Fax 503-279-0190**

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Greater Columbia Behavioral Health 2009 External Quality Review Report

Compliance Review
Performance Improvement Project Validation
Information Systems Capabilities Assessment

December 2009

Presented to the Washington Department of Social & Health Services,
Health and Recovery Services Administration, Mental Health Division

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Director, State and Private Services.....	Michael Cooper, RN, MN
Account Manager.....	Jody Carson, RN, MSW, CPHQ
Project Manager–Monitoring.....	Laureen Oskochil, MPH
Project Manager–Validation.....	Brett Asmann, MA
Project Coordinator.....	Ricci Rimpau, RN, CPHQ
Mental Health QI Specialist.....	Jessica M. Irvine, MS
Information Systems Analyst.....	Kim Shaw
Writer/Editor.....	Greg Martin
Production Assistant.....	Angela Smith

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Executive Summary

The Mental Health Division (MHD) contracts with Aumentra Health to perform an external quality review (EQR) of the delivery of mental health services to Washington Medicaid enrollees. Federal law requires EQR in states such as Washington that use a managed care approach to provide Medicaid services.

This report summarizes the 2009 review of Greater Columbia Behavioral Health (GCBH), one of 12 regional support networks (RSNs) with which MHD contracts to deliver mental health services through managed care. The major review areas are:

- the RSN's compliance with federal and state regulations and contract provisions governing managed care operations (in 2009, this review focuses primarily on quality assessment and performance improvement)
- evaluation of the RSN's performance improvement projects (PIPs)
- validation of the statewide performance measures that MHD uses to evaluate the quality of RSN services, including an Information Systems Capabilities Assessment (ISCA)

The reviews rate GCBH's overall performance, identify strengths and opportunities for improvement, and offer specific recommendations to address deficiencies. The results summarized below are presented in more detail in the main body of the report.

Compliance review results

The review found that in 2008, GCBH *fully met* four compliance standards, *substantially met* three standards, and *partially met* the QA/PI standard, as shown in Figure 1.

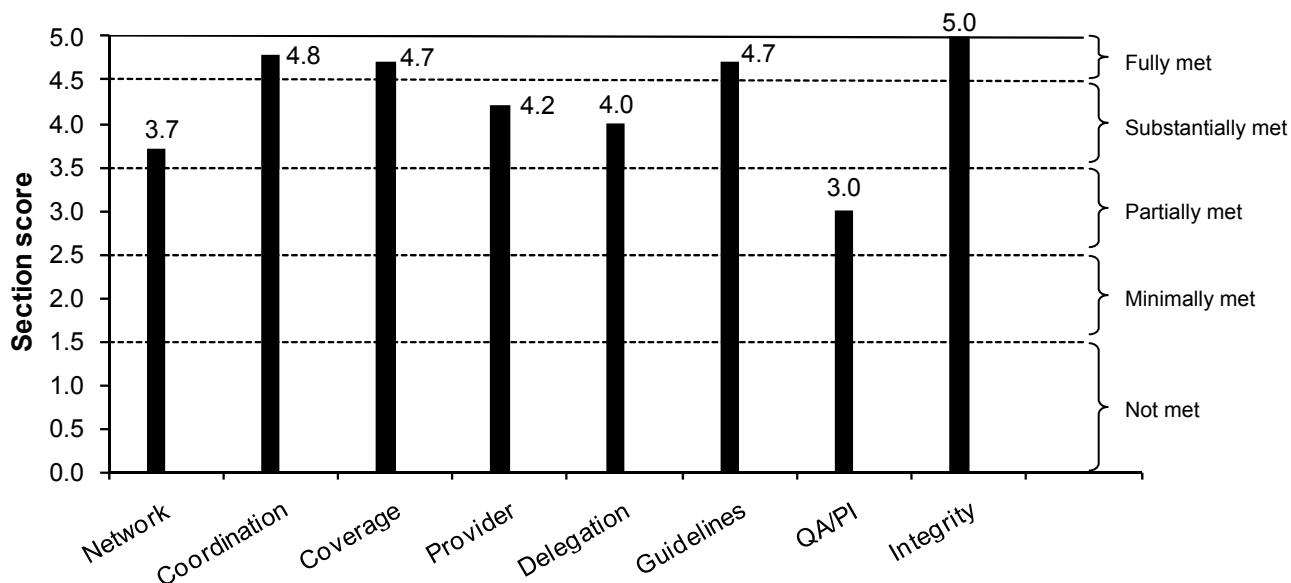


Figure 1. Summary results of Greater Columbia Behavioral Health compliance review.

Overview of RSN strengths

- GCBH monitors the functions delegated to provider agencies by performing annual onsite audits that include clinical record review, facility review, fiscal review, and encounter data validation.
- GCBH's comprehensive onsite clinical record review captures baseline data and trends in enrollee progress toward recovery. When an audit identifies problems, GCBH's care coordinators offer timely technical assistance for provider staff. The audit also monitors for issues identified during the enrollee's initial assessment, and for current and signed information releases, signed treatment plans, and family and client involvement.
- GCBH's member handbook and policies and procedures inform enrollees of their right to a second opinion, either within or outside the network.
- GCBH's 2008 quality management (QM) plan described a comprehensive QM program, integrating care management, utilization management, PIPs, and customer satisfaction. The plan identified specific data elements needed to facilitate meaningful analysis for a given indicator or measure, the means by which data are collected, and who is responsible for collecting data.
- GCBH displays its practice guidelines on its public website and can provide enrollees with the guidelines upon request.
- GCBH staff appears knowledgeable about fraud and abuse, including key activities such as initiating an investigation, training of staff and subcontractors, and incorporating the appropriate language and requirements in provider contracts.
- GCBH's providers participate actively in RSN committee work.

Overview of recommendations for the RSN

- GCBH needs to use existing management reports—or, if necessary develop new reports—to track indicators of network sufficiency, and review the reports routinely.
- GCBH needs to develop and implement a mechanism to track out-of-network services arranged for enrollees by network providers.
- During 2008, GCBH performed minimal tracking and monitoring to determine whether inappropriate use of crisis services was related to lack of access to routine care. GCBH needs to resume tracking and monitoring of all providers to ensure the appropriate use of crisis services, and report the results to the appropriate RSN committees.
- GCBH conducted no evaluation of its QM program in 2008. GCBH needs to establish a mechanism to evaluate this program at least annually.
- GCBH needs to continue to work with network providers and the state to ensure capturing valid data suitable for analysis of enrollee access.
- GCBH needs to develop and implement mechanisms to detect, identify, and monitor for over- and underutilization of services.
- GCBH needs to establish a formal process of follow-up with providers to ensure that action is taken to address issues of quality and appropriateness of care.

PIP evaluation results

Because RSNs begin their PIPs at different times, and because PIPs are generally multi-year projects, the studies may be in different stages at the time of the EQR evaluation. Per the protocol approved by MHD, Acumentra Health scores all PIPs according to the same criteria, regardless of the stage of completion. As ongoing QI projects, the PIPs may not meet all standards the first year, but a PIP is expected to achieve better scores as project activities progress, eventually reaching full compliance.

Acumentra Health reviewed one nonclinical and one clinical PIP conducted by GCBH. Both are ongoing PIPs, reviewed for the first time in 2008.

1. **Nonclinical—Improved Delivery of Non-Crisis Outpatient Appointments After a Psychiatric Hospitalization:** The state benchmark calls for 80 percent of Medicaid enrollees discharged from psychiatric hospitals to be offered non-crisis services within seven days of discharge. MHD data showed that GCBH performed below the benchmark in 2006. GCBH focused its intervention strategy on improving follow-up for enrollees who were not associated with a provider when hospitalized. The intervention failed to produce significant improvement in timely follow-up for RSN enrollees as a whole or for those with no previous provider affiliation. GCBH plans to discontinue this PIP.
2. **Clinical—Impact of Implementing the PACT Model on the Use of Inpatient Treatment:** GCBH implemented the Program of Assertive Community Treatment (PACT) in October 2007 in Benton and Franklin counties, using a multidisciplinary team to offer intensive services to high-risk enrollees. The goal is to reduce enrollees' serious mental health symptoms and episodes while increasing their social and occupational functioning. This PIP aims to determine whether PACT reduces the high rate of inpatient hospital utilization in the two counties.

As shown in Figure 2, the nonclinical PIP scored 79 on an 80-point scale, earning a Fully Met rating. The clinical PIP scored 67 out of 80, earning a Substantially Met rating.

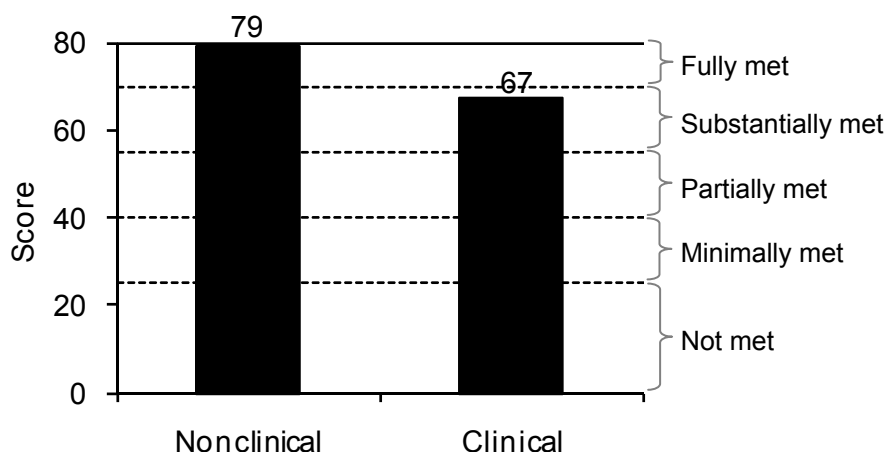


Figure 2. Summary results of Greater Columbia Behavioral Health PIP validation.

GCBH's nearly perfect score on the nonclinical PIP reflects sound study procedures, thorough documentation, and systematic implementation, although the intervention did not significantly improve the indicator. GCBH plans to discontinue this PIP.

GCBH's clinical PIP demonstrates similarly sound procedures and documentation. Preliminary data suggest that the PACT model has succeeded in reducing the number of inpatient psychiatric hospital days for enrollees in the program, but data collection is not yet complete.

Information Systems Capabilities Assessment

Acumentra Health conducted the ISCA for GCBH's information systems and data processing and reporting procedures that were in place during 2008. The goal was to determine the extent to which the RSN's information technology systems supported the production of valid and reliable state performance measures and the capacity to manage the health care of RSN enrollees. This was the first full ISCA conducted by Acumentra Health for the RSN.

The ISCA review found that in 2008, GCBH *partially met* the federal standards related to data processing procedures and personnel, and *fully met* the standards related to data acquisition capabilities. Figure 3 depicts the RSN's scores on individual ISCA subsections.

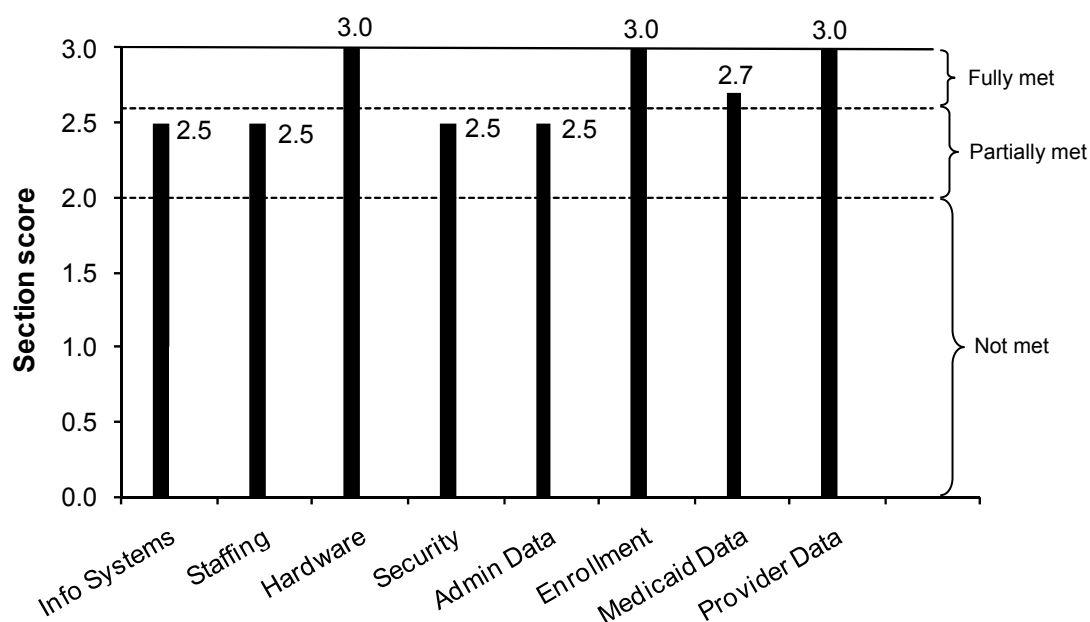


Figure 3. Summary results of Greater Columbia Behavioral Health ISCA.

Detailed results, including system strengths and recommendations for improvement, appear in the section beginning on page 54.

Introduction

This report summarizes the results of the 2009 review of GCBH, a mental health RSN that serves Medicaid recipients. Acumentra Health performed the review in its capacity as MHD's External Quality Review Organization (EQRO).

42 CFR §438.350 requires an annual EQR in states that use a managed care approach to provide Medicaid services. Currently, MHD contracts with 12 RSNs to deliver mental health services for Medicaid enrollees through managed care. The RSNs, in turn, contract with provider groups, including community mental health programs and private nonprofit agencies and hospitals, to deliver treatment services. The RSNs are responsible for ensuring that services are delivered in a manner that complies with legal, contractual, and regulatory standards for effective care.

MHD requires all RSNs to contract with an independent Ombuds service to act as an advocate for consumers of publicly funded mental health services by informing them about enrollee rights and helping them to resolve complaints and grievances. A Quality Review Team (QRT) for each RSN represents consumers of mental health services and their family members. The QRT is empowered to monitor consumer satisfaction with services and to work with consumers, service providers, the RSN, and MHD to improve services and resolve identified problems. In addition, many RSNs contract with a third-party administrator for utilization management services, including initial service authorization.

DSHS produces the *Benefits Booklet for People Enrolled in Medicaid* for statewide use and distributes the booklet annually to all Medicaid enrollees. Copies are made available at RSN and provider offices for people who enroll in Medicaid throughout the year.

GCBH, headquartered in Kennewick, is a 12-member government consortium providing public mental health services for 11 counties and the Yakama Nation in south central Washington. A citizen's advisory board advises the GCBH board of directors, reviews and provides comments and/or recommendations on plans and policies, and serves on workgroups and committees of GCBH. During 2008, GCBH had about 167,800 enrollees in its service area.

Review activities

42 CFR §438.358 specifies three mandatory activities that the EQR must cover in a manner consistent with protocols established by the Centers for Medicare & Medicaid Services (CMS):

- a review every three years of health plan compliance with federal and state regulations and contract provisions regarding access to care, structure and operation, and quality measurement and improvement
- annual validation of performance improvement projects (PIPs), a required element of health plans' quality improvement (QI) programs
- annual validation of performance measures reported by plans or calculated by the state, including an Information Systems Capabilities Assessment (ISCA)

In 2009, Acumentra Health will conduct a portion of the compliance review protocol for all RSNs, as well as the PIP validation and ISCA for each RSN. Together, these activities address the following questions:

1. Does the RSN meet CMS regulatory requirements?

2. Does the RSN meet the requirements of its contract with MHD?
3. Does the RSN monitor and oversee contracted providers in their performance of any delegated activities to ensure regulatory and contractual compliance?
4. Does the RSN conduct the two required PIPs, and are they valid?
5. Does the RSN's information technology infrastructure support the production and reporting of valid and reliable performance measures

Each section of this report describes the procedures used to assess whether the RSN met CMS standards related to the specific EQR activity. Review procedures were adapted from the following CMS protocols and approved by MHD:

- *Monitoring Medicaid Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs): A protocol for determining compliance with Medicaid Managed Care Proposed Regulations at 42 CFR parts 400, 430, et al.* Final Protocol Version 1.0, February 11, 2003
- *Validating Performance Improvement Projects*, Final Protocol Version 1.0, May 1, 2002
- *Appendix Z: Information Systems Capabilities Assessment for Managed Care Organizations and Prepaid Health Plans*, Final Protocol, Version 1.0, May 1, 2002

General procedures consisted of the following steps:

1. The RSN received a written copy of all interview questions and documentation requirements prior to onsite interviews.
2. The RSN submitted the requested documentation to Acumentra Health for review.
3. Acumentra Health staff visited the RSN to conduct onsite interviews and provided each RSN with an exit interview summarizing the results of the review.
4. Acumentra Health weighted the oral and written responses to each question and compiled results.

The scoring plan for each activity was adapted from CMS guidelines. Oral and written answers to the interview questions were scored by the degree to which they met regulatory- and contract-based criteria, and then weighted according to a system developed by Acumentra Health and approved by MHD.

Compliance with Regulatory and Contractual Standards

Acumentra Health's 2009 review of RSN compliance addresses federal and state standards related to eight major sections of managed care operations:

1. Delivery Network
2. Coordination and Continuity of Care
3. Coverage and Authorization of Services
4. Provider Selection
5. Subcontractual Relationships and Delegation
6. Practice Guidelines
7. Quality Assessment and Performance Improvement (QA/PI) Programs
8. Certification and Program Integrity

The 2008 compliance review addressed standards in two additional sections, Enrollee Rights and Grievance Systems.

The compliance review follows a protocol adapted from the CMS protocol for this activity and modified with MHD's approval. The provisions of MHD's Medicaid waiver and the RSN contract are such that certain portions of the federal protocol do not apply directly to RSNs. For example, because all people in Washington with mental illness are defined as having "special healthcare needs," the criteria for identifying and assessing these enrollees, developing treatment plans, and ensuring direct access to specialists differ from the criteria for serving people with special needs as defined by federal regulations.

Compliance scoring

Each review section contains elements corresponding to relevant sections of 42 CFR §438, MHD's contract with the RSNs, the Washington Administrative Code, and other state regulations where applicable.

Within each review section, Acumentra Health used the written documentation provided by the RSN and the answers to interview questions to score the RSN's performance on each review element on a range from 1 to 5 (see Table 1).

Table 1. Scoring scheme for elements in the compliance review.

Rating	Score	Representation
Fully met	5	●●●●●
Substantially met	4	●●●●
Partially met	3	●●●
Minimally met	2	●●
Not met	1	●

Acumentra Health combined the scores for the individual elements and used a predetermined weighting system to calculate a weighted average score for each review section. Section scores were rated according to the following scale:

4.5 to 5.0 = Fully met	1.5 to 2.4 = Minimally met
3.5 to 4.4 = Substantially met	<1.5 = Not met
2.5 to 3.4 = Partially met	

Summary of compliance review results

This review rates GCBH's overall performance, identifies strengths, and notes opportunities for improvement in areas where the RSN did not clearly or comprehensively meet federal and/or state requirements. The accompanying recommendations offer guidance on how the RSN may achieve full compliance. Some key strengths and recommendations follow.

Strengths

- GCBH monitors the functions delegated to provider agencies by performing annual onsite audits that include clinical record review, facility review, fiscal review, and encounter data validation.
- GCBH's comprehensive onsite clinical record review captures baseline data and trends in enrollee progress toward recovery. When an audit identifies problems, GCBH's care coordinators offer timely technical assistance for provider staff. The audit also monitors for issues identified during the enrollee's initial assessment, and for current and signed information releases, signed treatment plans, and family and client involvement.
- GCBH contracts with Behavioral Healthcare Options (BHO) to perform utilization management functions. BHO is accredited by the Utilization Review Accreditation Commission (URAC) and appears grounded in the basic principles of utilization review, such as consistent application of criteria in decision making, ensuring that timelines are met, and verifying inter-rater reliability of those who perform reviews.
- GCBH's member handbook and policies and procedures inform enrollees of their right to a second opinion, either within or outside the network.
- GCBH's 2008 QM plan described a comprehensive QM program, integrating care management, utilization management, PIPs, and customer satisfaction. The plan identified specific data elements needed to facilitate meaningful analysis for a given indicator or measure, the means by which data are collected, and who is responsible for collecting data.
- GCBH displays its practice guidelines on its public website and can provide enrollees with the guidelines upon request.
- GCBH staff appears knowledgeable about fraud and abuse, including key activities such as initiating an investigation, training of staff and subcontractors, and incorporating the appropriate language and requirements in provider contracts.
- GCBH's providers participate actively in RSN committee work.

Opportunities for improvement

- GCBH needs to use existing management reports—or, if necessary develop new reports—to track indicators of network sufficiency, and review the reports routinely.
- GCBH requires providers to arrange out-of-network services for enrollees, but has no mechanism to track out-of-network services secured by providers. The RSN needs to develop and implement such a mechanism.
- During 2008, GCBH performed minimal tracking and monitoring to determine whether inappropriate use of crisis services was related to lack of access to routine care. GCBH needs to resume tracking and monitoring of all providers to ensure the appropriate use of crisis services, and report the results to the appropriate RSN committees.
- GCRSN conducted no evaluation of its QM program in 2008. GCBH needs to establish a mechanism to evaluate this program at least annually.
- GCBH needs to continue to work with network providers and the state to ensure capturing valid data suitable for analysis of enrollee access.
- GCBH needs to develop and implement mechanisms to detect, identify, and monitor for over- and underutilization of services.
- GCBH needs to establish a formal process of follow-up with providers to ensure that action is taken to address issues of quality and appropriateness of care.

Table 2 shows the weighted average scores assigned to GCBH for each section.

Table 2. Weighted average scores and ratings on compliance review sections.

Review section	Score	Rating
1. Delivery Network	3.7	Substantially met
2. Coordination and Continuity of Care	4.8	Fully met
3. Coverage and Authorization of Services	4.7	Fully met
4. Provider Selection	4.2	Partially met
5. Subcontractual Relationships and Delegation	4.0	Substantially met
6. Practice Guidelines	4.7	Fully met
7. QA/PI General Rules and Basic Elements	3.0	Partially met
8. Certification and Program Integrity	5.0	Fully met

Section 1: Delivery Network

Section score: 3.7 (Substantially met)

Table 3 shows the elements in this review of RSN compliance for the care delivery network, citing the relevant regulations upon which Acumentra Health based the review criteria, and rating the degree of compliance based on raw (unweighted) scores.

Table 3. Summary of compliance review for the delivery network.

Review element	Rating
General requirements—§438.206(b)(1)	●●
Second opinion—§438.206(b)(3)	●●●●
Out-of-network services—§438.206(b)(4)	●●●
Coordination of out-of-network providers—§438.206(b)(5)	●●●●●
Timely access—§438.206(c)(1)	●●●●
Cultural considerations—§438.206(c)(2)	●●●●●

General requirements—§438.206(b)(1)

Scoring criteria

1. The RSN maintains and monitors a network of appropriate providers that is supported by written agreements.
2. The RSN's network is sufficient to provide adequate access to all services covered under the contract.
3. In establishing and maintaining the network, the RSN considers the following five factors:
 - a) anticipated Medicaid enrollment
 - b) expected utilization of services, the characteristics and healthcare needs of specific Medicaid populations represented by the RSN
 - c) numbers and types (training, experience, specialization) of providers required to furnish the contracted Medicaid services
 - d) number of network providers who are not accepting new Medicaid patients
 - e) geographic location of providers and Medicaid enrollees (including distance, travel time, means of transportation ordinarily used by Medicaid enrollees, and whether the location provides physical access for Medicaid enrollees with disabilities)

Recommendations

- GCBH reported that it produced the last GEO access report in 2005 and does not monitor the network to ensure that it provides adequate access to all services covered under the contract. GCBH needs to use existing management reports—or, if necessary develop new reports—to track network sufficiency, and review the reports routinely. The RSN does track service penetration rates, but needs to track these additional indicators:
 - anticipated Medicaid enrollment
 - numbers and types (training, experience, specialization) of providers required to furnish the contracted Medicaid services
 - number of network providers who are not accepting new Medicaid patients
 - geographic location of providers and Medicaid enrollees (including distance, travel time, means of transportation ordinarily used by Medicaid enrollees, and whether the location provides physical access for Medicaid enrollees with disabilities)
- GCBH needs to determine how it intends to measure network capacity and sufficiency in accordance with this standard.

Finding #1

GCBH's monitoring activities during 2008 did not address all required indicators of service availability or network sufficiency.

Second opinion—§438.206(b)(3)

Scoring criteria

1. The RSN provides for a second opinion from a qualified healthcare professional within the network, or arranges for the enrollee to obtain a second opinion outside the network, at no cost to the enrollee.
2. The RSN has a policy/procedure to ensure that member materials inform enrollees of their right to a second opinion.
3. RSN staff is knowledgeable about the policy/procedure.
4. The RSN monitors and tracks this process.

Strengths

- GCBH's member handbook and policies and procedures specify that enrollees have the right to a second opinion at no cost, and that if services are not available within the network, the RSN will arrange for services outside the network. The policy also describes a method for monitoring timeliness of second opinions

Recommendations

- GCBH reported only one request for a second opinion in the past two years, and thus had no management report. Staff said the RSN is redesigning its utilization review tool to record the second opinion interactions handled by the RSN. GCBH is encouraged to implement such changes and report audit findings to the RSN's Quality Management Oversight Committee (QMOC).

Out-of-network services—§438.206(b)(4)**Scoring criteria**

1. The RSN has an administration and services policy for covering approved out-of-network services adequately and in a timely manner.
2. The RSN's enrollee manual lists this policy.
3. The RSN tracks out-of-network encounters, and analyzes and utilizes the information.

Recommendations

- GCBH's policy on second opinions also addresses out-of-network services, but it does not specify timeliness requirements. GCBH needs to incorporate these requirements into its policy to ensure that all clinically necessary out-of-network services are available to enrollees in a timely manner.
- GCBH relies on the state's Benefits Booklet for Medicaid Enrollees to inform enrollees of their rights, and relies on providers to inform enrollees of their rights at intake. However, the booklet does not inform enrollees of their right to obtain out-of-network services. GCBH needs to develop a mechanism to inform enrollees about how to obtain out-of-network services.
- GCBH requires providers to arrange out-of-network services for enrollees, but has no mechanism to track out-of-network services secured by providers. The RSN needs to develop and implement such a mechanism.

Finding #2

GCBH's policy does not address the requirement to provide clinically necessary services out of network in a timely manner when the network cannot provide them.

Finding #3

GCBH lacks a mechanism to track out-of-network services secured for enrollees by network providers.

Coordination of out-of-network providers—§438.206(b)(5)**Scoring criteria**

1. The RSN has a policy requiring that out-of-network providers coordinate with the RSN with respect to payment, and ensures that cost to enrollee is no greater than it would be if the services were furnished within the network.

Strengths

- GCBH has a policy requiring that out-of-network providers coordinate with the RSN with respect to payment, ensuring that the enrollee's cost is no greater than it would be if the services were furnished within the network.

Timely access—§438.206(c)(1)**Scoring criteria**

1. The RSN meets and requires that its providers meet state standards for timely access to care and services, taking into account the urgency of enrollee's need for services.
2. The RSN ensures that network providers' hours of operation are no fewer than the hours of operation offered to non-Medicaid enrollees, or if the provider serves only Medicaid enrollees, the provider's hours of operation are comparable to Medicaid fee-for-service provider hours.
3. Services included in the contract are available 24 hours a day, 7 days a week, when medically necessary.
4. The RSN has established mechanisms to ensure compliance by providers.
5. The RSN monitors providers regularly to determine compliance.
6. The RSN takes corrective action if provider fails to comply.

Strengths

- GCBH's contract requires providers to meet state and federal standards for timely access to care and services. It also specifies that network providers' hours of operation are no fewer than the hours of operation offered to non-Medicaid enrollees, or, if the provider serves only Medicaid enrollees, the provider's hours of operation are comparable to Medicaid fee-for-service provider hours.
- GCBH's utilization management contractor, BHO, provides telephone answering services after hours, and sends the RSN monthly reports of the calls received.
- Annual clinical record reviews performed by GCBH include monitoring for timely access to care and services. Other methods for evaluating access include reviewing enrollee complaints and grievances and performing enrollee surveys. GCBH sends an individual report to each agency and a roll-up report to the QMOC.
- During 2009, GCBH has focused on improving the validity and reliability of access data received from the state and from contracted providers.

Recommendations

- State data indicate that in 2008, GCBH did not meet standards for the timeliness of routine access. GCBH needs to continue working with providers to ensure that enrollees have access to routine care within the required time frame.

Cultural considerations—§438.206(c)(2)**Scoring criteria**

1. The RSN participates in the state's efforts to promote delivery of services in a culturally competent manner to all enrollees, including those with limited English proficiency and diverse cultural and ethnic backgrounds.
2. The RSN has documents, policies, and procedures that support the promotion of these services.
3. The RSN has enrollee materials that support the promotion of these services.

Strengths

- GCBH provides its member handbook and other enrollee information materials in Spanish.
- Many of the provider offices' reception staff are bilingual in English and Spanish. Interpreter services are available upon request.
- GCBH has a multicultural competency committee that meets every month to address issues related to diversity, training, cultural competency, and language barriers. The RSN also has a specific committee to address children's issues.
- GCBH maintains a list of all specialists available at the provider agencies.

Section 2: Coordination and Continuity of Care

Section score: 4.8 (Fully met)

Table 4 shows the elements in this review of RSN compliance for coordination and continuity of care, citing the relevant regulations upon which Acumentra Health based the review criteria, and rating the degree of compliance based on raw (unweighted) scores.

Table 4. Summary of compliance review for coordination and continuity of care.

Review element	Rating
Primary care and coordination of services—§438.208(b)	●●●●●
Identification and assessment of enrollees with special healthcare needs—§438.208(c)(1)–(2)	●●●●●
Treatment plans for enrollees with special healthcare needs—§438.208(c)(3)	●●●●●
Direct access to specialists for enrollees with special healthcare needs—§438.208(c)(4)	●●●●

Primary care and coordination of services—§438.208(b)

Scoring criteria

1. The RSN implements policies and procedures to deliver care to and coordinate with primary healthcare services for all enrollees.
2. The RSN or contracted agency consults and communicates with enrollee's physical healthcare provider.
3. The RSN or contracted agency coordinates the services it furnishes to enrollees with services the enrollee receives from Healthy Options and other health plans.

Strengths

- GCBH's contract requires mental health service providers to
 - involve the enrollee's primary care provider (PCP) or clinic in developing and implementing the treatment plan
 - refer the enrollee for physical health care, diagnostic services, treatment, or other measures when healthcare needs are identified
 - coordinate care for children involved with one or more service system
- GCBH's provider agencies encourage enrollees to establish care with a PCP, especially if the enrollee is on medication. A review of clinical records indicated that the agencies do coordinate care with PCPs.

**Identification and assessment of enrollees with special healthcare needs—
§438.208(c)(1)–(2)****Scoring criteria**

1. The RSN has mechanisms to identify people with specialized healthcare needs.
2. The RSN implements policies and procedures to identify and assess enrollees who have specialized healthcare needs.
3. The RSN has a mechanism to ensure that enrollees identified by the state with specialized needs are assessed by an appropriate mental health professional.
4. The RSN has a methodology for monitoring this process.

Strengths

- GCBH has a policy requiring consultations for enrollees who are members of special populations, such as geriatric, child, minority, and disabled enrollees.
- GCBH identifies enrollees with specialized needs at initial intake, through self-reporting, or at the time of a referral for services. Monitoring through chart audits ensures that providers identify and assess these enrollees appropriately.

Treatment plans for enrollees with special healthcare needs—§438.208(c)(3)**Scoring criteria**

1. The enrollees' treatment plans address additional care services identified in the assessment for all enrollees with specialized needs.
2. The enrollees' treatment incorporates the recommendations of other agencies and providers of specialized services.
3. The enrollees' treatment plans are developed by mental health providers with the participation of enrollees and/or their families.
4. The RSN has a method to monitor treatment plans for enrollees with specialized needs.
5. The RSN has a method to follow through on findings from the monitoring with a quality improvement process.

Strengths

- GCBH's care coordinators perform annual chart audits that cover intake assessments, referrals, treatment planning, client voice, and recommendations by other healthcare providers. The care coordinators sit side-by-side with clinicians during the reviews, and can discuss and make recommendations for any aspect of clinical practice that needs improvement.

**Direct access to specialists for enrollees with special healthcare needs—
§438.208(c)(4)****Scoring criteria**

1. The RSN has policies and procedures for providing direct access to specialists for enrollees with specialized needs.
2. The RSN provides direct access in a timely manner.
3. The RSN has mechanisms in place for allowing direct access.
4. The RSN monitors/measures direct access.

Strengths

- GCBH has a policy and procedure for providing direct access to specialists for enrollees with specialized needs.

Recommendations

- GCBH reported that the provider agencies are “not that bad” in complying with the standards for providing timely direct access to specialists for enrollees with specialized needs. The RSN needs to develop and implement formal reporting mechanisms in order to assess the timeliness with which the agencies provide direct access.

Section 3: Coverage and Authorization of Services

Section score: 4.7 (Fully met)

Table 5 shows the elements in this review of RSN compliance for coverage and authorization of services, citing the relevant regulations upon which review criteria were based and rating the degree of compliance based on raw (unweighted) scores.

Table 5. Summary of compliance review for coverage and authorization of services.

Review element	Rating
Authorization of services, notice of adverse action—§438.210(b)–(c)	●●●●●
Time frame for decisions—§438.210(d)(1)–(2)	●●●●●
Compensation for utilization management activities—§438.210(e)	●●●●●
Emergency and post-stabilization services—§438.210; §438.114	●●●●

Authorization of services, notice of adverse action—§438.210(b)–(c)

Scoring criteria

1. The RSN has policies and procedures in place for the consistent application of review criteria for authorization decisions.
2. The RSN has mechanisms in place to ensure consistent application of review criteria for authorization decisions.
3. The RSN consults with requesting providers.
4. The RSN's decisions to deny service authorization requests or to authorize services in an amount, duration, or scope that is less than requested are made by a mental health professional with appropriate clinical expertise in treating the enrollee's condition or disease.
5. The RSN notifies the requesting provider of an adverse action and notifies the enrollee in writing of any decision to deny the request.

Strengths

- GCBH's Level of Care and Authorization Criteria Guidelines serve as the framework for authorizing medically necessary services for children, youth, and adults who are eligible to receive treatment for psychiatric disorders.
- BHO, which conducts service authorization for GCBH, has policies and procedures in place for inter-rater reliability testing of staff. Documentation for 2008 indicated that staff scores after training and testing met or exceeded the standard of 90 percent.
- As an oversight mechanism, GCBH receives and reviews authorization reports from BHO to ensure that the services requested meet level-of-care standards. During 2008, GCBH's clinical director conducted a monitoring site visit of BHO.

- GCBH's policy describes the qualifications for mental health intake clinicians to determine whether the enrollee's condition or diagnosis meets the medical necessity criteria. Review decisions are made by master's degree-level practitioners. BHO's medical director makes level-of-care determinations on all hospital denial decisions.
- BHO provides written notification of approval or denial to the enrollee, the provider, and the RSN.
- GCBH monitors compliance through yearly chart audits, review of enrollee survey feedback, grievances, and appeals, and BHO's inter-rater reliability audits.

Time frame for decisions—§438.210(d)(1)–(2)

Scoring criteria

1. The RSN has policies and procedures addressing coverage and authorization of services, including expedited authorizations.
2. The RSN ensures that its process is followed for standard authorization decisions and for providing notice.
3. The RSN ensures that its process is followed for expedited authorization decision and for providing notice.
4. The RSN has a mechanism for tracking service/expedited authorizations.

Strengths

- GCBH's policies and procedures address time frames for both standard and expedited authorization decisions, including notification time frames. BHO adheres to the specified time frames.
- GCBH reported that the average turnaround time for processing standard requests is within the required 14-day time frame, and that most requests are approved within 3 days. BHO has demonstrated greater than 95 percent timeliness on authorization requests.

Compensation for utilization management activities—§438.210(e)

Scoring criteria

1. The RSN has policies and procedures regarding compensation not being structured to provide incentives to deny, limit, or discontinue medically necessary services to enrollees.
2. The RSN ensures that contracted providers do not provide incentives to deny, limit, or discontinue medically necessary services to enrollees.

Strengths

- GCBH's contracts clearly articulate the RSN's commitment not to operate any physician incentive plans and not to contract with any agency operating such a plan.

Emergency and post-stabilization services—§438.210; §438.114**Scoring criteria**

1. The RSN has written policies and procedures pertaining to crisis, stabilization, and post-hospital follow-up services.
2. The RSN pays for treatment of conditions defined in its policies as urgent or emergent conditions.
3. The RSN tracks and monitors to ensure that there is no payment denial for crisis services.
4. The RSN tracks and monitors use of crisis services for inappropriate or avoidable use related to access to routine care.

Strengths

- GCBH has a well-written policy and procedure for crisis response services. The RSN does not require authorization for these services.
- GCBH's provider contract requires the provision of crisis services and coordination of care with hospitals and evaluation and treatment (E&T) programs.
- GCBH subcapitates providers and requires them to provide the full continuum of services.

Recommendations

- GCBH's policy lists many methods by which the RSN monitors the use of crisis services. However, during the onsite interview, GCBH staff stated that because of administrative changes in 2008, the RSN performed minimal tracking and monitoring to determine whether inappropriate use of crisis services was related to lack of access to routine care. GCBH needs to resume tracking and monitoring of all providers to ensure the appropriate use of crisis services, and report the results to the appropriate RSN committees.

Section 4: Provider Selection

Section score: 4.2 (Partially met)

Table 6 shows the elements in this review of RSN compliance for provider selection, citing the relevant regulations upon which review criteria were based and rating the degree of compliance based on raw (unweighted) scores.

Table 6. Summary of compliance review for provider selection.

Review element	Rating
General rules and credentialing and recredentialing requirements—§438.214(a)–(b)	●●●●●
Nondiscrimination—§438.214(c); §438.12	●●●●●
Excluded providers—§438.214(d)	●●●

General rules and credentialing and recredentialing requirements—§438.214(a)–(b)

Scoring criteria

1. The RSN has a credentialing and recredentialing policy.
2. The RSN follows a documented process for credentialing.
3. The RSN follows a documented process for recredentialing.
4. The RSN has a process to monitor credentialing and recredentialing processes.

Strengths

- GCBH’s credentialing policy and provider contract delegate to network providers the responsibility for ensuring that all mental health professionals providing RSN-funded services to consumers have the required credentials.
- Credentialing files of GCBH’s care coordinators reviewed by Acumentra Health included all the required elements.

Nondiscrimination—§438.214(c); §438.12

Scoring criteria

1. The RSN has policies and procedures that ensure a nondiscriminatory process for selecting and compensating providers.
2. The RSN has policies and procedures that ensure a nondiscriminatory process for selecting providers based on their treatment of high-risk populations or populations that require costly treatment.
3. The RSN notifies providers when they are not chosen.

Strengths

- GCBH has policies and procedures in place that ensure a nondiscriminatory process for selecting providers based on their treatment of high-risk populations or populations that require costly treatment.

Excluded providers—§438.214(d)**Scoring criteria**

1. The RSN has a policy to hire and contract with individuals and organizations that are not excluded from participating in federal healthcare programs.
2. The RSN follows a documented process to determine whether individuals or organizations are excluded from participating in federal healthcare programs.
3. The RSN's contracts include the provision that providers not knowingly have a director, officer, partner, or person with a beneficial ownership of more than 5 percent of the RSN's equity.
4. The RSN's contracts include the provision that providers not hire, contract, or consult with individuals or organizations that have been debarred, suspended, or otherwise excluded by any federal agency.

Strengths

- GCBH's policy and provider contract prohibit the RSN from employing or contracting with providers excluded from participation in federal healthcare programs.
- GCBH's provider contract prohibits the provider agency from knowingly having a director, officer, partner, or person with a beneficial ownership of more than 5 percent of the RSN's equity.
- RSN personnel files contained complete verification of credentials from primary sources.

Recommendations

- Although GCBH reviews personnel records during the annual fiscal audit, the audit does not monitor for excluded providers. The RSN's acting administrator distributes the state's email about new exclusions in Washington. GCBH needs to add monitoring for exclusion from federal healthcare programs to its oversight of provider personnel files.
- GCBH's file on BHO confirmed the credentials of the medical director, but not BHO's license or current URAC credentials. GCBH needs to ensure that it monitors all contractors for exclusion from participating in federal healthcare programs.

Finding #4

During 2008, GCBH did not ensure that all provider agency and subcontractor staff were screened for exclusion from participation in federal healthcare programs.

Section 5: Subcontractual Relationships and Delegation

Section score: 4.0 (Substantially met)

Table 7 shows the elements in this review of RSN compliance for subcontractual relationships and delegation, citing the relevant regulations upon which review criteria were based and rating the degree of compliance based on raw (unweighted) scores.

Table 7. Summary of compliance review for subcontractual relationships and delegation.

Review element	Rating
Subcontractual relationships and delegation—§438.230	●●●●

Subcontractual relationships and delegation—§438.230

Scoring criteria

1. The RSN has policies and procedures to oversee and evaluate its subcontractors for activities that have been delegated.
2. The RSN has a written agreement that specifies the activities and report responsibilities that are delegated.
3. The RSN specifies revocation or sanctions for inadequate performance.
4. The RSN periodically reviews, monitors, and identifies subcontractor performance.
5. The RSN determines whether there are deficiencies and, if present, initiates corrective action.

Strengths

- GCBH's provider contract specifies the activities and responsibilities that providers are required to perform, including steps GCBH will take if the provider fails to perform. The contract incorporates all requirements in the RSN Interlocal Agreement.
- GCBH's annual review of delegated entities is based on an audit tool that covers:
 - nondiscrimination
 - incident reporting
 - information requirements
 - access and capacity
 - quality management
 - enrollee rights and protections
 - grievance system and benefits
 - Medicaid personal care
 - disaster response

- jail services
- provider credentialing

Recommendations

- GCBH's contract and delegation agreement with BHO do not address after-hours services that are provided by a BHO subcontractor. GCBH needs to ensure that its policy addresses all delegated functions and provides for a monitoring method for all functions.
- The onsite interview revealed that GCBH credentials the provider agencies informally, using no review tool. GCBH needs to develop and implement a more formal system for capturing, recording, and storing results from credentialing. For convenience, GCBH should store all results of a review of delegated activities in a single provider file.

Section 6: Practice Guidelines

Section score: 4.7 (Fully met)

Table 8 shows the elements in this review of RSN compliance for practice guidelines, citing the relevant regulations upon which review criteria were based and rating the degree of compliance based on raw (unweighted) scores.

Table 8. Summary of compliance review for practice guidelines.

Review element	Rating
Basic rule and adoption of guidelines—§438.236(a)–(b)	●●●●
Dissemination of guidelines—§438.236(c)	●●●●●
Application of guidelines—§438.236(d)	●●●●●

Basic rule and adoption of guidelines—§438.236(a)–(b)

Scoring criteria

1. The RSN's practice guidelines are based on valid and reliable clinical evidence or a consensus of mental healthcare professionals in the particular field.
2. The RSN's practice guidelines consider the needs of enrollees.
3. The RSN's practice guidelines are adopted in consultation with contracting mental healthcare professionals.
4. The RSN's practice guidelines are reviewed and updated periodically.

Strengths

- GCBH's policy describes the process the RSN follows to adopt its practice guidelines, and outlines a schedule for reviewing the guidelines.

Recommendations

- The onsite interview revealed that GCBH's two guidelines, on major depression and psychiatric evaluation, had not been adopted on the basis of an analysis of the enrollee population. RSN staff expressed the need to implement guidelines that are more useful for outpatient management. GCBH is encouraged to seek input from providers and to adopt practice guidelines that reflect the diverse needs of enrollees in its service area.

Dissemination of guidelines—§438.236(c)**Scoring criteria**

1. The RSN has a policy on the dissemination of the guidelines.
2. The RSN has a process to respond to enrollee requests for guidelines.
3. The RSN has documentation of disseminated guidelines and sends any revisions to all affected providers and, upon request, to enrollees and potential enrollees.

Strengths

- GCBH's policy addresses disseminating the practice guidelines and responding to enrollee requests. The RSN displays the guidelines on its public website and can provide enrollees with the guidelines upon request.
- GCBH conducted provider training on the guidelines in April 2008.

Application of guidelines—§438.236(d)**Scoring criteria**

1. The RSN ensures that its providers' practices are based on approved guidelines or evidence based practices.
2. The RSN has a process to monitor that its providers' practices are consistent with approved guidelines.

Strengths

- During the annual chart review, GCBH monitors providers' use of the approved guidelines when making medical and QM decisions, including the consistency of decision making.

Section 7: QA/PI General Rules and Basic Elements

Section score: 3.0 (Partially met)

Table 9 shows the elements in this review of RSN compliance for QA/PI general rules and basic elements, citing the relevant regulations upon which review criteria were based and rating the degree of compliance based on raw (unweighted) scores.

Table 9. Summary of compliance review for QA/PI general rules and basic elements.

Review element	Rating
Performance improvement projects and program review by the state— §438.240(a)–(b)(1); (d)–(e)	● ● ●
Performance measurement—§438.240(b)(2)–(c); §438.204(c)	● ● ● ●
Mechanisms to detect underutilization and overutilization of services— §438.240(b)(3)	●
Mechanisms to assess the quality and appropriateness of care— §438.240(b)(4)	● ● ●
Health information systems, general rule—§438.242(a)	● ●
Health information systems, basic elements—§438.242(b)	● ● ● ●

Performance improvement projects and program review by the state— §438.240(a)–(b)(1); (d)–(e)

Scoring criteria

1. The RSN has a planned (QA/PI) program, including QA and PI processes.
2. The RSN has a QA/PI committee that meets regularly, reports to the governing structure, and has stakeholder input.
3. The RSN has an overall process for evaluating its own QA/PI process and provides an annual report to MHD.
4. The RSN, as part of its QA/PI program, conducts one clinical and one nonclinical performance improvement project each year.

Strengths

- GCBH's 2008 QM plan described a comprehensive QM program, integrating care management, utilization management, PIPs, and customer satisfaction. The QM plan also describes the functions of the RSN's board of directors and committees, including the QMOC, Clinical Directors Committee, and Multi-Cultural Committee.

Recommendations

- GCBH did not perform an annual assessment of the impact and effectiveness of its QM program during 2008. The RSN had no clinical director or CEO, and the quality manager was new to her position. At the time of the EQR site visit, GCBH was reviewing and rebuilding its QM process. GCBH needs to establish a mechanism to evaluate its QM program at least annually.
- The QMOC met only intermittently during 2008. To ensure proper oversight of its QM program, GCBH needs to ensure that this committee meets regularly.

Finding #5

GCBH did not perform an annual evaluation of its QM program during 2008.

Performance measurement—§438.240(b)(2)–(c); §438.204(c)

Scoring criteria

1. The RSN has a QA/PI plan.
2. The RSN collects performance data.
3. The RSN reports performance data annually to the state.
4. The RSN has a process to ensure that its data are valid.
5. The RSN has data that can be analyzed for access.

Strengths

- GCBH's QM plan identified specific data elements needed to facilitate meaningful analysis for a given indicator or measure, the means by which data are collected, and who is responsible for collecting data. Among other elements, the plan addressed:
 - the degree to which health services are culturally competent, are provided in the least restrictive environment, are driven by and incorporate enrollee and family voice, and assist enrollees' progress toward recovery and resiliency
 - over- and underutilization of services
 - network provider satisfaction
 - consumer feedback
- GCBH conducts encounter data validation for all contracted providers yearly during the clinical record reviews.

Recommendations

- GCBH's quality manager reported that the access data collected from provider agencies and the state during 2008 was inconsistent and unreliable, and therefore the RSN did not use the data to analyze enrollee access to services. GCBH has worked with its providers to

ensure capturing valid data suitable for analysis of access. GCBH needs to continue to work with network providers and the state to achieve that goal.

Finding #6

During 2008, GCBH lacked data that it could use with confidence to analyze enrollee access to services.

**Mechanisms to detect underutilization and overutilization of services—
§438.240(b)(3)****Scoring criteria**

1. The RSN has mechanisms to detect both overutilization and underutilization of services, including policies and procedures for tracking over- and underutilization.
2. The RSN has mechanisms to detect both overutilization and underutilization of services, including criteria for identifying over- and underutilization.
3. The RSN has mechanisms to detect both overutilization and underutilization of services, including routine monitoring to determine over- and underutilization.
4. The RSN has mechanisms to detect both overutilization and underutilization of services, including taking action on over- and underutilization findings.

Strengths

- GCBH's care coordinators review all inpatient stays in an effort to detect problems with over- or underutilization.

Recommendations

- The RSN lacks mechanisms to detect, identify, or monitor for over- or underutilization of services. GCBH needs to develop and implement such mechanisms.
- Because of GCBH's lack of confidence in access data during 2008, the RSN did not collect or analyze utilization data, other than informally for inpatient stays. GCBH needs to define criteria for over- and underutilization with regard to outpatient encounters.

Finding #7

GCBH lacks mechanisms to detect, identify, or monitor for over- and underutilization of services.

Mechanisms to assess the quality and appropriateness of care—§438.240(b)(4)**Scoring criteria**

1. The RSN has a mechanism to assess the quality and appropriateness of care furnished to enrollees with specialized needs.
2. The RSN monitors the quality and appropriateness of care furnished to enrollees with specialized needs.
3. The RSN takes action when quality and appropriateness-of-care issues are identified.

Strengths

- GCRSN assesses the quality of care through clinical record reviews, surveys, focus groups, and review of grievances.

Recommendations

- GCBH's quality manager described an informal interactive process with providers to ensure action when issues of quality and appropriateness of care are identified. The RSN needs to establish a formal follow-up process to ensure that action is taken to address issues identified through routine monitoring.

Finding #8

GCBH has no formal follow-up process to ensure that action is taken to address issues of quality and appropriateness of care identified through routine monitoring.

Health information systems, general rule—§438.242(a)**Scoring criteria**

1. The RSN has a health information system that collects, analyzes, integrates, and reports data on utilization, grievances, and requests to change providers.
2. The RSN uses reports to inform management decisions.
3. The RSN identifies services to meet unmet enrollee needs.

Recommendations

- GCBH has found it hard to obtain enrollee demographic information from the state, and therefore has not generated uniform management reports that would help to identify unmet enrollee needs and the services that might meet those needs. GCBH needs to develop and routinely review reports from its health information system that can inform management decisions and help to identify services to meet enrollee needs.

Finding #9

In 2008, GCRSN did not review health information system reports to inform management decisions and to identify services to meet enrollee needs.

Health information systems, basic elements—§438.242(b)**Scoring criteria**

1. The RSN collects data on enrollee and provider characteristics and on services furnished to enrollees through encounter data.
2. The RSN ensures that data received from providers are accurate and complete by verifying the accuracy and timeliness of reported data.
3. The RSN makes collected data available to the state and, upon request, to CMS.
4. The RSN ensures that data received from providers are accurate and complete by screening the data for completeness, logic, and consistency.
5. The RSN ensures that data received from providers are accurate and complete by collecting service information in standardized formats.

Strengths

- GCBH validates encounter data yearly when conducting clinical record review at each provider agency. GCBH screens the data collected to ensure completeness, logic, and consistency.

Recommendations

- GCBH needs to develop and implement standardized formats for collecting data from all providers to ensure that all data (e.g., access data) are accurate and complete.

Section 8: Certification and Program Integrity

Section score: 5.0 (Fully met)

Table 10 shows the elements in this review of RSN compliance for certification and program integrity, citing the relevant regulations upon which review criteria were based and rating the degree of compliance based on raw (unweighted) scores.

Table 10. Summary of compliance review for certification and program integrity.

Review element	Rating
Program integrity: General requirements—§438.608(a)	●●●●●
Program integrity: Specific requirements—§438.608(b)	●●●●●

Program integrity: General requirements—§438.608(a)

Scoring criteria

1. The RSN has administrative arrangements or procedures designed to guard against fraud and abuse.
2. The RSN has management arrangements or procedures designed to guard against fraud and abuse.
3. The RSN has a compliance plan designed to guard against fraud and abuse.

Strengths

- GCBH has administrative and management arrangements and procedures in place to guard against fraud and abuse. The RSN's contracts stipulate that the contractor also must have such arrangements and procedures in place.
- GCBH ensures through onsite reviews that all contractors have compliance plans in place.

Program integrity: Specific requirements—§438.608(b)

Scoring criteria

1. The RSN has written policies, procedures, and standards of conduct that articulate the organization's commitment to comply with all applicable federal and state standards.
2. The RSN has a compliance officer and a compliance committee that are accountable to senior management.
3. The RSN has effective training and education for the compliance officer and the organization's employees.
4. The RSN has effective lines of communication between the compliance officer and the organization's employees.
5. The RSN enforces the standards through well-publicized disciplinary guidelines.

6. The RSN has mechanisms for internal monitoring and auditing.
7. The RSN responds promptly to detected offenses and in development of corrective action.

Strengths

- GCBH's policy and contracts articulate the RSN's commitment to comply with all federal and state standards. Sections of the policy address proper accounting, record keeping, and provisions of the False Claims Act, including whistleblower protections.
- GCBH's board of directors oversees the RSN's Compliance Committee. Together with the compliance officer, the Compliance Committee ensures ongoing communication with all employees about the fraud and abuse program, including any changes in laws, regulations, or policies.
- All newly hired RSN staff members are required to attend training on fraud and abuse.
- The Compliance Committee has tested the compliance plan processes at a contracted provider's office. The review identified no occurrences of fraud and/or abuse.

Performance Improvement Project Validation

Under 42 CFR §438.240(d), a managed care organization that serves Medicaid enrollees must have an ongoing program of PIPs that focus on improving clinical care and nonclinical aspects of service delivery. The PIPs enable the organization to assess and improve the processes and, in turn, the outcomes of care.

PIPs are validated each year as part of the EQR to ensure that the projects are designed, conducted, and reported according to accepted methods, establishing confidence in the reported improvements. The PIPs must include:

- measurement of performance using objective quality indicators
- implementation of system interventions to improve quality
- evaluation and initiation of the interventions
- planning and initiation of activities for increasing or sustaining improvement

Through repeated measurement of the selected quality indicators, a PIP is expected to demonstrate meaningful change in performance relative to the performance observed during baseline measurement.

Acumentra Health validated the Washington RSNs' PIPs for the first time in 2008. The RSNs generally have carried over those PIPs into 2009, enabling Acumentra Health to evaluate the RSNs' progress toward meeting the CMS criteria for PIPs.

Because RSNs begin their PIPs at different times, the studies may be in different stages at the time of the EQR evaluation. Some may be underway but not yet complete; others may have progressed to the point of collecting baseline and remeasurement data; still others may have progressed to multiple remeasurements. The stage of the PIP at review determines the level of analysis that Acumentra Health applies.

PIP review procedures

Data collection tools and procedures, adapted from CMS protocols, involved document review and onsite interviews. Acumentra Health scored the RSN's PIPs according to criteria adapted from the CMS protocol and approved by MHD.

Generally, Acumentra Health reviews PIPs for the following elements:

- a written project plan with a study design, an analysis plan, and a summary of results
- a clear, concise statement of the topic being studied, the specific questions the study is designed to address, and the quantifiable indicators that will answer those questions
- a clear statement of the improvement strategies, their impact on the study question, and how that impact will be assessed and measured
- an analysis plan that addresses project objectives, defines indicators clearly, specifies the population being studied, identifies data sources and/or the data collection procedure, and discusses the methods for analyzing the data and performing statistical tests
- if applicable, a sampling methodology that yields a representative sample
- in the case of data collection that involves a medical chart review, a check on inter-rater reliability
- validation of data at the point of data entry for accuracy and completeness

- validation rules created in the data entry database to determine whether data were missing or whether data fell within valid parameters
- when claims or encounter data are used for population-based analysis, assessment of data completeness
- a summary of results that covers all data collection and analysis, explaining limitations inherent in the data and methodologies and discussing whether the strategies resulted in improvements

Compliance rating

To determine the level of compliance with federal standards, Acumentra Health assigns a score to each PIP. The scoring methodology involves rating the RSN's performance on as many as 10 standards, listed in Table 11.

Table 11. Standards for PIP validation.

Demonstrable Improvement	
1	Selected study topic is relevant and prioritized
2	Study question is clearly defined
3	Study indicator is objective and measurable
4	Study population is clearly defined and, if a sample is used, appropriate methodology is used
5	Data collection process ensures valid and reliable data
6	Improvement strategy is designed to change performance based on the quality indicator
7	Data are analyzed and results interpreted according to generally accepted methods
8	Reported improvement represents "real" change
Sustained Improvement	
9	The RSN has documented additional or ongoing interventions or modifications
10	The RSN has sustained the documented improvement

Appendix A defines in detail the specific criteria used to evaluate performance.

Each standard has a potential score of 100 points for full compliance. The total points earned for each standard are weighted and combined to determine an overall PIP score. The overall score is weighted 80 percent for demonstrable improvement in the first year (Standards 1–8) and 20 percent for sustained improvement in later years (Standards 9–10). Thus, for a PIP that has completed one remeasurement, the maximum overall project score is 80 points. If the PIP has progressed to at least a second remeasurement, enabling reviewers to assess sustained improvement, the maximum overall project score is 100.

Table 12 shows the compliance ratings and associated scoring ranges for PIPs graded on the 80-point and 100-point scales. Appendix A presents a sample scoring worksheet. Note: these compliance rating ranges for the overall PIP score are different from the ranges used in assessing compliance for individual PIP standards; see Appendix A.

Table 12. PIP scoring ranges.

Compliance rating	Description	100-point scale	80-point scale
Fully met	Meets or exceeds all requirements	80–100	70–80
Substantially met	Meets essential requirements, has minor deficiencies	60–79	55–69
Partially met	Meets essential requirements in most, but not all, areas	40–59	40–54
Minimally met	Marginally meets requirements	20–39	25–39
Not met	Does not meet essential requirements	0–19	0–24

Per the protocol approved by MHD, Acumentra Health scores all PIPs according to the same criteria, regardless of the stage of completion. As ongoing multi-year QI projects, the PIPs may not meet all standards the first year, but a PIP is expected to achieve better scores as project activities progress, eventually reaching full compliance.

Confidence rating

For a PIP that has completed at least one remeasurement, the validation proceeds to a second step: assessing the validity and reliability of PIP results.

In this step, reviewers examine whether the PIP used an appropriate study design; whether the study measured what it was intended to measure; and whether the results can be applied to other populations. Reviewers then assign an overall level of confidence in the study results, ranging from “High confidence” to “Results not credible.”

Review results for nonclinical PIP: Improved Delivery of Non-Crisis Outpatient Appointments After a Psychiatric Hospitalization

Good clinical care for people with serious mental illness depends on providing rapid follow-up care after discharge from an inpatient psychiatric facility. MHD's benchmark calls for 80 percent of Medicaid patients discharged from psychiatric hospitals to be offered non-crisis services within seven days of discharge. According to MHD's data, however, only about half of RSN enrollees are receiving non-crisis appointments within seven days. As a result, a group of RSNs have adopted this topic as the focus of a statewide PIP.

MHD data showed that GCBH performed below the statewide benchmark in 2006. GCBH conducted a Pareto analysis to identify the provider agencies in its network that were responsible for 80 percent of the service delivery failures. This revealed that half of the RSN's providers, including those that serve a majority of enrollees, performed at or above 70 percent, making provider-specific intervention strategies unnecessary. GCBH's barrier analysis revealed that 27 percent of enrollees with baseline hospital discharges were not associated with a specific provider. Thus, GCBH focused its intervention strategy on improving follow-up for enrollees who were not associated with a provider at the time of hospitalization. GCBH reported that the intervention did not result in significant improvement in timely follow-up for RSN enrollees as a whole or for the group of enrollees with no previous provider affiliation. GCBH plans to discontinue this PIP.

The overall weighted score for this PIP is 79, based on a scale of 80, resulting in a compliance rating of Fully Met. The PIP could not be assigned a confidence rating because the study had not progressed to a second remeasurement.

Figure 4 shows the score for each of the eight validation standards reviewed for this nonclinical project.

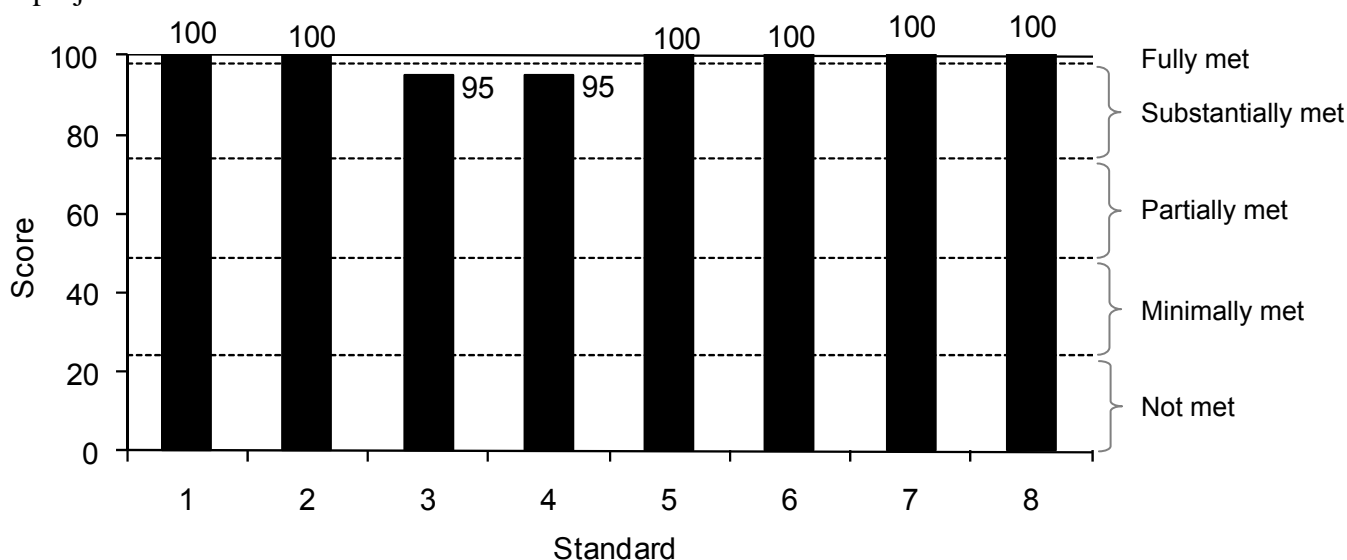


Figure 4. Validation scores by standard for nonclinical PIP, Improved Delivery of Non-Crisis Outpatient Appointments After a Psychiatric Hospitalization.

Standard 1: Selected study topic is relevant and prioritized**Score: 100 (Fully met)**

To meet Standard 1, the RSN must establish the relevance of the PIP topic for its local service population by presenting local data, utilization patterns, grievances, or other stakeholder input that highlight service needs or deficiencies in local systems. Another criterion is to demonstrate that the PIP will improve services for a large portion of the Medicaid population.

As discussed in the documentation, good clinical care for people with serious mental illness depends on providing rapid follow-up care after discharge from an inpatient psychiatric facility. Research studies have shown that (1) clients who do not have an outpatient appointment after discharge are twice as likely to be rehospitalized in the same year as are clients who keep at least one outpatient appointment; (2) failure to engage in outpatient care after discharge increases the likelihood of readmission and can compromise successful community adjustment; and (3) clients whose scheduled follow-up appointments are within two weeks of discharge are about four times as likely to keep their appointments as clients whose scheduled follow-up appointments are more than two weeks after discharge.

Ideally, a person with mental illness would receive aftercare within seven days of discharge from inpatient care. MHD's benchmark is that 80 percent of Medicaid clients discharged from community hospitals or E&T facilities be offered non-crisis services within seven days. During 2006–2007, however, all RSNs performed below that benchmark. RSN administrators and MHD agreed that this topic provides an opportunity for each RSN to address a significant performance issue and to work together and with MHD to refine skills they need to conduct PIPs successfully. RSN representatives worked with MHD to develop this topic for a statewide PIP.

GCBH's study focuses on a substantial subpopulation of enrollees at risk for rehospitalization, as enrollees who do not receive prompt follow-up care after hospitalization are twice as likely to return to the hospital within the same year. Continuing data collection will enable GCBH to monitor changes in adherence rates over time. For GCBH, the state reported a baseline performance level of 62 percent in 2006–2007, indicating that 38 percent of eligible enrollees were not offered a timely outpatient follow-up appointment. GCBH conducted a Pareto analysis to identify and focus interventions on low-performing agencies. However, the RSN found that half of its providers, including the two largest providers, performed at or above 70 percent. GCBH concluded that provider-specific intervention strategies would not be an effective way to improve performance. Further analysis of the baseline data revealed that 27 percent of enrollees with inpatient hospital stays were not affiliated with a provider at the time of hospitalization. Consequently, GCBH developed an intervention strategy to target this group of enrollees in an attempt to increase the RSN's overall performance.

The documentation presents thorough and relevant information to support the prioritization of this study topic. GCBH fully meets this standard.

Standard 2: Study question is clearly defined**Score: 100 (Fully met)**

Standard 2 requires the RSN to document a study question that provides a clear framework for data collection, analysis, and interpretation. The study question(s) should refer to the proposed intervention, the study population (usually the denominator), and a quantitative measure of the desired outcome (the numerator).

GCBH's study question is: "Did notification by the GCBH Care Coordinators to GCBH providers that an 'unassigned' individual in their service area had been admitted to an inpatient setting significantly increase the percentage of Medicaid-enrolled, adult consumers who received non-crisis outpatient services within seven (7) days of discharge from a community hospital?"

The study question clearly refers to the study intervention (notification that an unassigned individual has been hospitalized), the numerator (received non-crisis services within seven days of discharge), and the denominator (adult Medicaid enrollees admitted to an inpatient setting). The question creates a clear framework for data collection and analysis.

GCBH fully meets this standard.

Standard 3: Study indicator is objective and measurable

Score: 95 (Substantially met)

The purpose of Standard 3 is to document the study indicators used to measure performance improvement. The RSN should also discuss the basis for adopting the study indicators as proxies for processes or outcomes of care.

The PIP documentation defines the outcome indicator, called the adherence rate, as follows.

Numerator: Enrollees in the denominator who have received a non-crisis outpatient service within seven days of discharge.

Denominator: Medicaid-enrolled adults discharged from a community hospital.

GCBH plans to evaluate whether the intervention improved the study indicator for two stratified groups:

- enrollees identified as "unassigned" and for whom the care coordinators intervened
- enrollees for whom no intervention occurred (i.e., those who were assigned to a provider at the time of hospitalization)

Consequently, GCBH defined two additional indicators:

1. **Numerator:** Enrollees in the denominator who have received a non-crisis outpatient service within seven days of discharge.

Denominator: Medicaid-enrolled adults discharged from a community hospital, on whose behalf the care coordinators intervened.

2. **Numerator:** Enrollees in the denominator who have received a non-crisis outpatient service within seven days of discharge.

Denominator: Medicaid-enrolled adults discharged from a community hospital, on whose behalf the care coordinators *did not* intervene.

Time frames for the indicator are defined under Standard 5.

GCBH elected to construct and use its own datasets for this PIP rather than use the data supplied by MHD. The RSN explained that in order to match an inpatient episode to an outpatient episode to create the study numerator, it merged data from Paid Claims (hospital data) with encounter data (outpatient data) by the RSNID field associated with each enrollee record. The PIP documentation listed excluded outpatient service codes but not included service codes. GCBH

needs to provide a list of all qualifying outpatient service codes used to formulate the numerator. Further discussion of data collection methodology is presented under Standard 5.

In terms of how the study indicator was selected, GCBH noted that the statewide PIP team developed the indicator and that GCBH's Quality Management Oversight Committee adopted the indicator when it decided to participate in the statewide PIP. However, GCBH did not describe the basis for adopting this indicator as the measure of performance improvement. The RSN needs to state whether the PIP team adopted this indicator because it is similar to a HEDIS measure, because it is a standard mental health quality measure (cite a reference), or for other reasons (e.g., it is a state-mandated performance measure). If the PIP team modified an existing performance measure (HEDIS or state), GCBH should describe any major modifications to the measure and should justify any changes.

To meet this standard fully, GCBH needs to list all qualifying outpatient service codes (included and excluded) and explain the PIP team's basis for adopting the specific performance indicator.

Standard 4: Study population is clearly defined and, if a sample is used, appropriate methodology is used
Score: 95 (Substantially met)

Standard 4 requires the RSN to document all inclusion and exclusion criteria used to select the study population, and to document a method by which the RSN ensures that the study population captures all eligible enrollees.

The documentation described the study population as all inpatient episodes of care for adult Medicaid enrollees in a community hospital, which appear in the state's Paid Claims database. GCBH defined an adult as an enrollee who is 18 years of age or older on the day of discharge from inpatient care, and calculated age by subtracting the enrollee's date of birth from the date of discharge and rounding down to the nearest whole number. An enrollee was considered Medicaid-eligible if he/she was eligible during the month of discharge from the inpatient facility. The population includes enrollees with dual eligibility (Medicare/Medicaid) and enrollees with special healthcare conditions. Enrollees discharged and readmitted to another inpatient facility within 24 hours (the same or next calendar day) are considered "transfers" and are excluded from the study. There is no requirement for length of hospital stay to be included in the study. Because the study aims to capture the entire subpopulation, no sampling is involved.

GCBH noted that it included 398 enrollees in the baseline study population and 198 in the intervention/follow-up population.

GCBH opted to create its own datasets for the PIP rather than use data from MHD. The RSN described three types of data and the associated source files on the MHD intranet:

1. Paid claims data for community hospitals and E&T facilities
 - Data source: MHD intranet/community hospital bills
2. Eastern State Hospital admission and discharge data
 - MHD intranet/state hospital/admissions and discharges
3. Medicaid eligibility data
 - MHD intranet/MMIS eligibility/MMIS eligibles by RSN

GCBH matched enrollee data across each of these data files through the RSNID. When this ID was not available, Social Security number or a second identifier consisting of the first four letters of a consumer's last name and date of birth was constructed and used to match enrollees.

Through a data validation process, GCBH determined that the eligibility field in the Paid Claims data and the MHD-generated data set did not match. The RSN devised a new system of determining eligibility by one of the following methods.

1. For enrollees whose discharges occurred within the 18 months covered by the eligibility data, GCBH determined Medicaid eligibility by matching the month of discharge from the Paid Claims file with monthly Medicaid eligibility data in the eligibility data file. If no match could be found between the two data sets, the episode was designated as non-eligible.
2. For enrollees whose discharges occurred prior to the 18 months covered by the eligibility data, GCBH used a combination of three variables to determine Medicaid eligibility. The combination of Program, Match, and Medical fields found in the Paid Claims file, the MHD dataset, and the eligibility datasets are associated with a funding type (i.e., Medicaid). GCBH found 100 percent congruence between the funding associated with the three codes and the Medicaid eligibility designations found in the MHD PIP dataset. GCBH concluded that this methodology closely mimics the methodology used by MHD in determining Medicaid eligibility.

Two types of funding qualify as Medicaid-eligible in the Paid Claims file: "T-19" and "State Plan." For enrollees designated as T-19, GCBH found 100 percent congruence between the code-combination methodology and the funding designations found in the Paid Claims file. However, for enrollees designated as State Plan, there was only 64 percent agreement between the code-combination methodology and the Paid Claims file. Nevertheless, GCBH concluded that this procedure produced the most accurate eligibility information, and continued with this methodology in formulating the study population.

GCBH noted that the Paid Claims file included discharge data for community E&T facilities, but the study denominators refer only to community hospitalizations. GCBH should discuss whether the RSN considers community hospitals and E&Ts one and the same, and should revise the study population to include E&T discharges.

In reviewing the MHD data set, GCBH noted that transfers from a community hospital to Eastern State Hospital—which, by definition of the study population, should be excluded—were mistakenly included in the data set. GCBH used the Eastern State Hospital admissions and discharges data file to identify enrollees who were discharged from a community hospital and transferred to the state hospital the same or next calendar day. The RSN then excluded those enrollees from the study.

To meet this standard fully, GCBH needs to explain the difference between community hospitals and E&Ts and whether the study population includes E&T discharges.

Standard 5: Data collection process ensures valid and reliable data**Score: 100 (Fully met)**

The purpose of Standard 5 is to record procedures for collecting all study data, including which data are collected, the source of the data, and systematic methods for collection. Another purpose is to document a data analysis plan, citing the test of significance and probability level that the RSN will use to determine whether there are statistical differences between baseline and remeasurement data.

GCBH defined the baseline and intervention data collection phases as follows:

Baseline: June 1, 2007–May 31, 2008

Intervention/Follow-up: June 1–December 31, 2008

GCBH's data source for outpatient follow-up data was RSN encounter data in 837P format. Using the RSNID, GCBH queried the outpatient service encounters for services that occurred within 120 days of the inpatient discharge date. GCBH eliminated services on the documented exclusion list.

The RSN cited two encounter data validation studies to support the accuracy of the outpatient service data. Acumentra Health's 2008 study revealed that of 433 encounters reviewed, 407 (94 percent) had procedure codes that matched the enrollee's chart. GCBH conducted a similar validation between October 2008 and June 2009, reviewing 2,610 encounters. The RSN found 98 percent congruence between the procedure codes in the electronic database and the enrollee's clinical record, and 97 percent congruence between the service dates in the electronic database and the clinical record.

GCBH revised its data analysis plan from previous years. The RSN planned to analyze baseline and remeasurement data by means of a chi-square test with a 2x2 contingency table, with a probability level of $p \geq .05$ considered statistically significant. GCBH calculated the indicator for the entire population at baseline and follow-up, as well as for the two groups of enrollees, stratified by whether the intervention was received or not.

GCBH clearly identified the data sources and the data collection and validation procedures, and documented an analysis plan.

GCBH fully meets this standard.

Standard 6: Improvement strategy is designed to change performance based on the quality indicator**Score: 100 (Fully met)**

Standard 6 requires the RSN to document an improvement strategy that will affect a wide range of enrollees or an at-risk enrollee population, and that is reasonably expected to result in measurable improvement. The RSN should also document when the intervention was implemented, with the goal of collecting baseline data before implementation and remeasurement data after implementation.

GCBH analyzed baseline data and found that 106 enrollees (27 percent) discharged from inpatient care were not associated with a provider agency. The RSN discussed this barrier with its authorization vendor, BHO, who confirmed that it could not identify an outpatient provider for many enrollees at the time of inpatient authorization. The goal of the intervention was to

improve communication between the RSN and the outpatient providers for consumers with no affiliated outpatient provider. The intervention process began with BHO identifying enrollees who did not have assigned providers. BHO faxed the authorization forms for “unassigned” enrollees to GCBH’s care coordinators, who determined the most appropriate provider based on the enrollee’s county of residence. The care coordinators then contacted the identified agency and reported the enrollee’s admission to a designated professional, who became responsible for following up with the enrollee.

GCBH’s care coordinators maintained a log of enrollees designated as unassigned, and retained the authorization documents for those enrollees. During the intervention period, the care coordinators communicated with providers regarding 64 unassigned enrollees. For the purposes of data analysis, GCBH’s quality manager compared the log of unassigned enrollees to the faxed authorization data to validate which enrollees received the intervention. Of the 64 unassigned enrollees, inpatient data from the Paid Claims file were found for only 42 (65 percent). GCBH speculated that the discrepancy between the enrollees for whom the care coordinators intervened and those with inpatient discharge data may be due to fluctuations in Medicaid eligibility status or to lags in billing and processing of inpatient data, although the precise reason is unknown. The discrepancy represents a potential limitation of the study and/or a confounding factor affecting the results, which GCBH should discuss under Standard 7.

GCBH’s intervention strategy targeted a specific barrier identified through analysis of the baseline data, a barrier that affected 27 percent of the baseline study population. Because the intervention targeted a substantial, at-risk group of enrollees less likely to receive outpatient follow-up services, the intervention was deemed likely to affect the study indicator.

GCBH fully meets this standard.

Standard 7: Data are analyzed and results interpreted according to generally accepted methods

Score: 100 (Fully met)

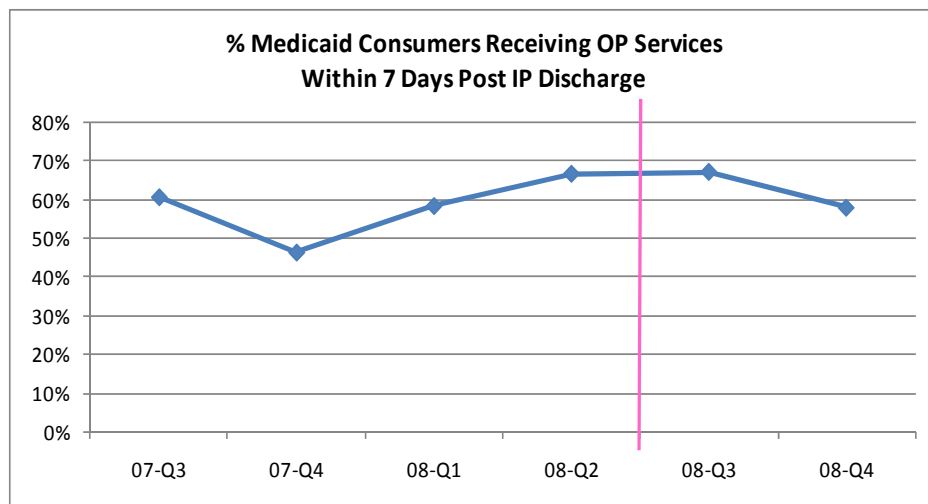
The purpose of Standard 7 is to present the results of the data analysis comparing baseline and remeasurement data, to interpret the findings with a discussion of the comparability of baseline and remeasurement data, and to discuss any factors that threatened the validity of the data. A second purpose is to identify any barriers to improvement or lessons learned.

GCBH presented the study indicator at baseline and remeasurement for the RSN as a whole and for enrollees who did or did not receive the intervention. Overall, of 398 enrollees at baseline, 231 (58 percent) received outpatient follow-up within seven days of discharge from a community hospital. At remeasurement, of the 198 enrollees, 122 (62 percent) received follow-up within seven days. GCBH’s chi-square analysis determined that the 4 percent increase was not statistically significant ($p=.40$).

GCBH compared the remeasurement follow-up rates for enrollees who received the intervention with follow-up rates for enrollees who did not. Of 42 enrollees who received the intervention, 25 (60 percent) received an outpatient follow-up service within seven days of discharge. Of 156 enrollees who did not receive the intervention, 97 (62 percent) received an outpatient follow-up service within seven days. GCBH’s chi-square analysis determined that the difference between the rates of follow-up for these two groups was not statistically significant ($p=.75$).

Under Standard 6, GCBH noted that 22 enrollees who received the intervention were ultimately excluded from the data analysis. The RSN should comment on whether it believes this exclusion affected the study results and should describe it as a limitation of the study.

GCBH conducted two additional statistical analyses that were not part of the original analysis plan, and concluded that neither analysis supported that the intervention increased the study indicator. GCBH also presented a graph of the RSN's performance on the study indicator from the third quarter of 2007 through the fourth quarter of 2008 (see below), with a vertical line indicating the beginning of the intervention. GCBH concluded that the indicator began to trend upward well before the intervention but did not increase after implementation.



GCBH identified several barriers to improvement:

- The lag time between when an outpatient service occurred and when the data became available from MHD sometimes rendered inaccurate the care coordinators' designations as to whether an enrollee was assigned or unassigned to a provider.
- A weakness of the intervention was that it did not include a feedback loop whereby the care coordinators followed up with the providers to determine that the hospitalized enrollee had been contacted for follow-up.
- The intervention was time-consuming for the care coordinators, adding significantly to their workload and increasing costs.

GCBH clearly presented its baseline and remeasurement data and the results of its statistical analyses, and identified several barriers and lessons learned.

GCBH fully meets this standard.

Standard 8: Reported improvement represents “real” change
Score: 100 (Fully met)

The purpose of Standard 8 is to assess whether any reported improvement is “real” by

- documenting that baseline and remeasurement data were collected using the same methodology and therefore are comparable
- discussing any improvement in processes related to the study question or in associated outcomes of care
- describing how the study intervention relates to the performance improvement
- calculating statistical significance of any changes

GCBH reported that none of the main PIP analyses examining differences between baseline and remeasurement data for the entire RSN, or differences in follow-up rates between enrollees who did and did not receive the intervention, showed statistical significance. GCBH concluded that the study indicator improved before the beginning of the intervention but improved no further as a result of implementing the intervention, and that the intervention caused no improvement in follow-up rates after hospital discharge. GCBH further concluded that performance on this study indicator appears to fluctuate cyclically, but that not enough evidence or historical data exist to draw that conclusion firmly.

GCBH will recommend to its board of directors that this PIP be discontinued because:

- the data used in the current PIP will no longer be available after the implementation of a new Medicaid Management Information System in December 2009
- the introduction of a contract-required performance measure in October 2009, similar to the study indicator, means that MHD will provide the RSN with quarterly performance data, but the data may not include raw data that would allow for the depth of analyses required for this PIP

GCBH clearly presented statistical evidence to support its conclusions with regard to the study intervention; discussed the probable relationship between the intervention and changes in the study indicator (i.e., that no relationship exists); and concluded that any improvement detected by the study indicators was not “real” or attributable to the study intervention.

GCBH fully meets this standard.

Standard 9: The RSN has documented additional or ongoing interventions or modifications**Score: n.a.**

The purpose of Standard 9 is to assess whether the RSN documented additional interventions or modifications to interventions, or changed other aspects of the PIP based on results from data or barrier analyses (i.e., lessons learned).

GCBH was not scored on this standard because the PIP had not progressed to a second remeasurement.

Standard 10: The RSN has sustained the documented improvement**Score: n.a.**

The purpose of Standard 10 is to assess whether the RSN documented sustained improvement through additional remeasurements conducted over comparable time periods. While sustained improvement is not required, the RSN should address whether the project demonstrated sustained improvement.

GCBH was not scored on this standard because the PIP had not progressed to a second remeasurement.

Confidence rating: n.a.

The PIP could not be assigned a confidence rating because the study had not progressed to a second remeasurement.

Review results for clinical PIP: Impact of Implementing the PACT Model on the Use of Inpatient Treatment

GCBH implemented the Program of Assertive Community Treatment (PACT) in October 2007 in Benton and Franklin counties, using a multidisciplinary team to offer intensive services to high-risk enrollees. This PIP aims to determine whether PACT reduces the number of inpatient psychiatric hospital days for Medicaid enrollees in the program. Preliminary study data indicate that 29 of the 40 enrollees spent fewer days in inpatient treatment, 5 spent more days, and 6 stayed the same. Overall, PACT enrollees averaged 70 inpatient days during the 12 months before PACT admission and 21 days during the 12 months following admission. The preliminary data suggest that the PACT model has succeeded, but data collection will not be complete until the end of December 2009.

The overall weighted score for this PIP is 67, based on a scale of 80, resulting in a compliance rating of Substantially Met. The PIP could not be assigned a confidence rating because the study had not progressed to a second remeasurement.

Figure 5 shows the score for each of the eight validation standards reviewed for this clinical project.

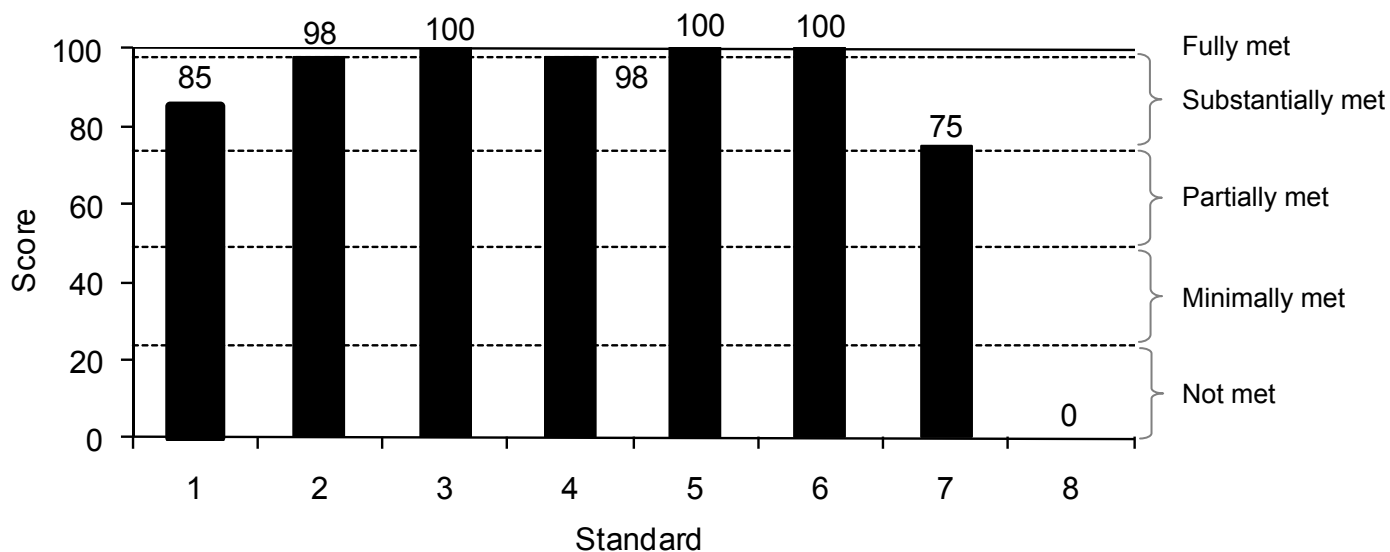


Figure 5. Validation scores by standard for clinical PIP, Impact of Implementing the PACT Model on the Use of Inpatient Treatment.

Standard 1: Selected study topic is relevant and prioritized
Score: 85 (Substantially met)

To meet Standard 1, the RSN must establish the relevance of the PIP topic for its local service population by presenting local data, utilization patterns, grievances, or other stakeholder input that highlight service needs or deficiencies in local systems. Another criterion is to demonstrate that the PIP will improve services for a large portion of the Medicaid population.

GCBH focused the clinical PIP on reducing inpatient hospital days for several reasons, including a President's New Freedom Commission on Mental Health report that prioritizes care delivered in the community over institutional care; a state legislative action resulting in 30 fewer hospital beds available to the RSN; receipt of data from MHD related to hospitalizations; and local data revealing a high rate of inpatient hospital days in Benton and Franklin counties. Specifically, GCBH noted that the two counties had 27.73 inpatient days per thousand Medicaid-eligible members, whereas Yakima County, with 30,000 more Medicaid-eligible individuals, had only 15.37 inpatient days per thousand eligible members.

With the goal of finding a new approach to care in Benton and Franklin counties that would reduce hospitalizations, GCBH sought and received a grant from the U.S. Substance Abuse and Mental Health Services Administration to implement the PACT program in those two counties. GCBH chose an existing network provider, Lourdes Counseling Center, as the program site. The program accepted its first enrollees in October 2007.

GCBH provided sufficient local data to justify intervening in Benton and Franklin counties to reduce hospitalization. GCBH discussed factors that made reducing hospitalization in these counties a high priority. GCBH also noted that its Quality Management Oversight Committee adopted this topic, but did not describe how the committee prioritized this topic over other potential topics or whether the RSN gathered input from stakeholders (e.g., consumer advocates or provider agency directors) as part of the selection process.

To meet this standard fully, GCBH needs to describe more fully the selection and prioritization process, including how the RSN prioritized this topic over other potential topics and whether the selection process involved stakeholders.

Standard 2: Study question is clearly defined
Score: 98 (Substantially met)

Standard 2 requires the RSN to document a study question that provides a clear framework for data collection, analysis, and interpretation. The study question(s) should refer to the proposed intervention, the study population (usually the denominator), and a quantitative measure of the desired outcome (the numerator).

GCBH documented its study question as: "Did Medicaid-enrolled adults continuously participating in the PACT at Lourdes Counseling Center experience improved outcomes of care during their enrollment in this program, as evidenced by a statistically significant reduction in the total number of inpatient days during the first 12 months following their admission to the PACT program as compared to the total number of psychiatric inpatient days occurring during the 12 months immediately prior to their admission?"

The study question clearly refers to the PACT as the study intervention and to the study population as adults continuously participating in the program. However, GCBH should make clear that it will compare the total number of *psychiatric* inpatient days 12 months prior to PACT with the total number of psychiatric days post-PACT, since enrollees may be hospitalized for other reasons during the study period.

To meet this standard fully, GCBH should state clearly in its study question that it plans to compare total psychiatric inpatient days before and after PACT.

Standard 3: Study indicator is objective and measurable
Score: 100 (Fully met)

The purpose of Standard 3 is to document the study indicators used to measure performance improvement. The RSN should also discuss the basis for adopting the study indicators as proxies for processes or outcomes of care.

GCBH stated its outcome indicator as “the total number of psychiatric inpatient days occurring in each of the two 12-month measurement periods, occurring pre- and post-PACT admission, for the same Medicaid-eligible adult.”

Rather than using a numerator and denominator, GCBH will analyze this indicator by comparing raw, paired, pre- and post-PACT data (i.e., inpatient days for each enrollee). GCBH will use a statistical test designed to evaluate this type of paired data, described under Standard 5.

GCBH defined psychiatric inpatient days as days occurring in state hospitals, E&T centers, and community hospitals. The number of psychiatric days is calculated by subtracting the date of admission to an inpatient facility from the date of discharge. Transfers and readmissions are counted as separate episodes of care. Each 12-month segment consists of 12 contiguous months; the first segment begins 12 months before the date of admission to PACT and ends with the date of admission, and the second begins on the date of PACT admission and ends one year later.

GCBH provided a succinct review of research that connects the PACT program with reductions in inpatient hospital days, justifying its selection of the outcome indicator as its measure of performance improvement.

GCBH fully meets this standard.

Standard 4: Study population is clearly defined and, if a sample is used, appropriate methodology is used
Score: 98 (Substantially met)

Standard 4 requires the RSN to document all inclusion and exclusion criteria used to select the study population, and to document a method by which the RSN ensures that the study population captures all eligible enrollees.

GCBH described its study population as a subpopulation of Medicaid enrollees participating in the PACT in Benton and Franklin counties at Lourdes Counseling Center, who are 18 years of age or older, Medicaid-enrolled upon admission to PACT, and enrolled in PACT for at least 12 months. The rationale for 12-month enrollment is that research shows that most hospitalizations occur within the first 9 months of the program. GCBH documented that 40 enrollees had met criteria and been included in the study, and that 22 more would likely become eligible provided

they were not discharged from the program before the requisite 12-month enrollment period. GCBH plans to continue data collection for this PIP through December 2009.

GCBH clarified that enrollees must be 18 years or older and eligible for Medicaid at the time of their admission to PACT in order to be included the study.

Since the study population includes enrollees eligible and admitted to PACT, GCBH listed the following admission criteria for the program:

- severe and persistent mental illness
- significant difficulty with tasks needed to live independently in the community
- continuous high service needs

GCBH noted that enrollees who have needed higher levels of hospitalization in the past and enrollees known to have severe and persistent mental illness are given priority with regard to entering PACT.

PACT staff members collect and submit data on enrollees admitted to the program to GCBH so that the RSN can determine if an enrollee is eligible for the study. Data elements include the enrollee's name and ID, date of birth, Social Security number, PACT admission and discharge dates, and Medicaid eligibility.

GCBH validated Medicaid eligibility by checking for a Person Identifier Code (PIC) number related to the first outpatient service in the RSN's encounter database, coded with the state modifier "UD" that identifies PACT team services. Enrollees whose Medicaid eligibility could not be validated by this method were excluded from the study. GCBH should specify that UD modifiers are associated with PACT services, and therefore the RSN is validating Medicaid eligibility as of the first PACT service.

GCBH clearly defined the inclusion criteria for the study, and discussed the data sources and methods used to validate the data to identify eligible enrollees.

To meet this standard fully, GCBH needs to specify that UD modifiers are associated with PACT services.

Standard 5: Data collection process ensures valid and reliable data

Score: 100 (Fully met)

The purpose of Standard 5 is to record procedures for collecting all study data, including which data are collected, the source of the data, and systematic methods for collection. Another purpose is to document a data analysis plan, citing the test of significance and probability level that the RSN will use to determine whether there are statistical differences between baseline and remeasurement data.

During the previous year, the PACT team collected primary data for this PIP. However, GCBH's quality manager determined that the data collected with respect to inpatient hospitalizations were incomplete, and identified other viable data sources. Specifically, GCBH used the Paid Claims file on the MHD intranet to identify community hospital and E&T admissions. The RSN validated these data by comparing them with authorization data from BHO. GCBH used the following rules during validation:

- If BHO's data indicated a longer inpatient stay than indicated in the Paid Claims file, GCBH accepted the BHO data, because stays may include administrative days for which the hospital cannot bill.
- If BHO's data indicated a shorter inpatient stay than indicated in the Paid Claims file, GCBH accepted the Paid Claims data, because community hospitalizations may occur for which an authorization was never sought.
- If an inpatient hospital episode was found in the BHO data but not in the Paid Claims data, GCBH accepted the BHO data because of the known lag in claims data.

A second data source was archived admission and discharge data on state hospital stays, also available on the MHD intranet. GCBH accepted the state hospital admission dates captured in this data set, because no reliable way existed to validate them. State hospital discharge dates were validated against the enrollee's first outpatient service encounter after discharge. If the outpatient encounter occurred before the discharge date listed in the MHD intranet file, GCBH accepted the outpatient service date as the date of discharge, though the RSN acknowledged that this could result in overestimating hospital days.

For data analysis, GCBH planned to use a paired t-test, or a non-parametric version of the t-test if the data are not normally distributed, to compare the average number of hospital days one year before admission to PACT with the average number of hospital days one year after admission. However, GCBH found that the study data did not meet the assumptions of either test. Instead, GCBH will use the signs test to analyze the data. This test examines whether each enrollee's total number of inpatient days increased, decreased, or stayed the same for the 12 months before and after PACT admission, and does not rely on a normal distribution.

GCBH will not consider data collection complete until December 2009; thus, the analysis presented under Standard 7 is preliminary. GCBH selected a probability level of $p < .05$ to determine whether the study results were statistically significant. GCBH selected a one-tailed test, but may consider using a two-tailed test in the event that the data show a statistically significant increase in the number of inpatient days before and after the PACT.

GCBH fully meets this standard.

Standard 6: Improvement strategy is designed to change performance based on the quality indicator

Score: 100 (Fully met)

Standard 6 requires the RSN to document an improvement strategy that will affect a wide range of enrollees or an at-risk enrollee population, and that is reasonably expected to result in measurable improvement. The RSN should also document when the intervention was implemented, with the goal of collecting baseline data before implementation and remeasurement data after implementation.

The PACT model, GCBH's intervention strategy, is an evidence-based approach to delivering intensive services to enrollees where and when services are needed. PACT most often applies to adults with severe and persistent mental illness—for example, those with schizophrenia, other psychotic disorders, or bipolar disorder, and those who experience significant disability from other mental illnesses. The goals of the model are to:

- lessen or eliminate the symptoms of mental illness
- minimize or prevent acute episodes of illness
- enhance the enrollee's quality of life
- improve social and occupational functioning
- help enrollees live independent lives
- lessen the burden on the enrollee's family

GCBH noted that multiple studies associate use of the PACT model with a reduction in the number of inpatient hospital days. If this PIP succeeds in reducing inpatient hospital days for the subpopulation of enrollees in Benton and Franklin counties, GCBH will consider expanding the intervention strategy in its network.

Fidelity to the PACT model is an important part of the intervention strategy. External reviewers from MHD and the Washington Institute for Mental Health Research & Training assessed the fidelity of the PACT program in Benton and Franklin counties and determined an overall fidelity score of 4.19 out of 5.0 in March 2008 and 4.46 out of 5.0 in March 2009. GCBH attached the entire fidelity report and scores on all domains, and stated that the fidelity score rendered it one of the most successful programs in the state.

GCBH fully meets this standard.

Standard 7: Data are analyzed and results interpreted according to generally accepted methods

Score: 75 (Substantially met)

The purpose of Standard 7 is to present the results of the data analysis comparing baseline and remeasurement data, to interpret the findings with a discussion of the comparability of baseline and remeasurement data, and to discuss any factors that threatened the validity of the data. A second purpose is to identify any barriers to improvement or lessons learned.

GCBH reported preliminary study data and results of statistical tests, in advance of completing data collection in December 2009. GCBH originally planned to use a t-test to compare the average number of inpatient days for PACT enrollees one year pre- and one year post-PACT. However, GCBH determined that the study data did not meet one of the critical assumptions of a t-test, and instead chose to use the signs test to analyze the data.

GCBH analyzed data for 40 enrollees who met criteria for the study. Before PACT admission, inpatient psychiatric days for all enrollees totaled 2,799. One year after admission to PACT, inpatient days totaled 826. The average number of days per enrollee before admission was 70 days; after admission, the average was 21 days. The signs test examines the total number of days before and after PACT for each enrollee and determines whether the total days increased, decreased, or stayed the same. Results indicated that of the 40 enrollees, 29 enrollees spent fewer days in inpatient treatment, 5 spent more days, and 6 stayed the same. The results are statistically significant in the desired direction ($p < .01$), indicating that the program successfully reduced the number of inpatient days for PACT enrollees.

Although it appears that the PIP resulted in significant improvement, GCBH should describe any barriers or lessons learned that it plans to incorporate into the next iteration of the PIP.

To meet this standard fully, GCBH needs to present the final study data and statistical results and describe any barriers and lessons learned during the PIP process.

Standard 8: Reported improvement represents “real” change**Score: 0 (Not met)**

The purpose of Standard 8 is to assess whether any reported improvement is “real” by

- documenting that baseline and remeasurement data were collected using the same methodology and therefore are comparable
- discussing any improvement in processes related to the study question or in associated outcomes of care
- describing how the study intervention relates to the performance improvement
- calculating statistical significance of any changes

Although GCBH presented preliminary study data, it did not present the final study analyses or draw conclusions about whether the reported improvement is real.

To meet this standard fully, GCBH needs to present final study data and explain whether it believes that any reported improvement is real, and why.

Standard 9: The RSN has documented additional or ongoing interventions or modifications**Score: n.a.**

The purpose of Standard 9 is to assess whether the RSN documented additional interventions or modifications to interventions, or changed other aspects of the PIP based on results from data or barrier analyses (i.e., lessons learned).

GCBH was not scored on this standard because the PIP had not progressed to a second remeasurement.

Standard 10: The RSN has sustained the documented improvement**Score: n.a.**

The purpose of Standard 10 is to assess whether the RSN documented sustained improvement through additional remeasurements conducted over comparable time periods. While sustained improvement is not required, the RSN should address whether the project demonstrated sustained improvement.

GCBH was not scored on this standard because the PIP had not progressed to a second remeasurement.

Confidence rating: n.a.

The PIP could not be assigned a confidence rating because the study had not progressed to a second remeasurement.

Information Systems Capabilities Assessment

Acumentra Health examined GCBH's 2008 information systems and data processing and reporting procedures to determine the extent to which they supported the production of valid and reliable state performance measures and the capacity to manage the health care of RSN enrollees.

Review activities

Assessment procedures, adapted from the CMS protocol for this activity, consisted of the following four phases.

1. Phase 1 involves pre-onsite activities that include the collection of standard information about the RSN information systems. The RSN completes the ISCA data collection tool (ISCA-T) provided by Acumentra Health before the onsite review. Acumentra Health also asks the RSN to submit other relevant documents at this time.
2. Phase 2 involves pre-onsite activities that include a review by Acumentra Health of the completed ISCA-T and accompanying documents. Where an answer seems incomplete or indicates an inadequate process, Acumentra Health marks that section for follow-up and further review during Phase 3.
3. Phase 3 activities include a data center security walkthrough and a series of in-depth onsite and telephone interviews with key RSN staff members who completed the ISCA-T, as well as with other knowledgeable RSN staff. The purpose is to gather additional information to assess the integrity of the RSN's information systems and data processing and reporting procedures. Provider agency interviews, also performed at this time, consist of questions regarding the agency's information systems, encounter/claims processing, and handling of enrollment data.
4. Phase 4 involves post-onsite analysis of findings about the RSN's information systems and the implications of the findings regarding:
 - a. the completeness and accuracy of any claims and encounter data collected and submitted to MHD
 - b. the RSN's capacity to conduct QA/PI initiatives
 - c. the RSN's capacity to oversee and manage the delivery of health care to its enrollees

Scoring scheme

Acumentra Health's ISCA review is organized in two main sections—(1) Data Processing Procedures and Personnel and (2) Data Acquisition Capabilities—with eight subsections. Each section contains review elements corresponding to relevant federal standards.

Within each section, Acumentra Health uses the information collected in the ISCA-T, responses to interview questions, and results from the security walkthrough to score the RSN's performance on each element on a scale from 1 to 3 (see Table 13 on next page).

After scoring the individual elements, Acumentra Health combines the scores and uses a predetermined weighting system to calculate a weighted average score for each subsection. The detailed criteria for scoring are available from Acumentra Health upon request.

Table 13. Scoring scheme for ISCA elements.

Score	Rating	Definition
2.6–3.0	Fully met (pass)	Meets or exceeds the element requirements.
2.0–2.5	Partially met (pass)	Meets essential requirements of the element but is deficient in some areas.
< 2.0	Not met (fail)	Does not meet the essential requirements of the element.
–	N/A	Not applicable.

Summary of review results

During the review year (January–December 2008), GCBH used a Microsoft SQL Server database management system to process encounter data. GCBH’s seven contracted provider agencies used various practice management systems to collect, process, and submit encounter data to the RSN.

During January–August 2008, GCBH contracted with Jet Computer Support to provide consultation and training for encounter data processing and other information systems-related activities. During January–June 2008, GCBH contracted with Behavioral Healthcare Options (BHO) for UM services, including initial service authorization and enrollee eligibility verification.

This evaluation reflects GCBH’s and BHO’s information systems and data processing procedures, as well as GCBH’s oversight and monitoring of Jet Computer Support and BHO-contracted services.

Acumentra Health’s review found that in 2008, GCBH *partially met* federal standards related to data processing procedures and personnel, and *fully met* the data acquisition capabilities standards. Table 14 summarizes the ISCA scores and ratings.

Table 14. Weighted average scores and ratings on ISCA sections.

Review section/subsection	Score	Compliance rating
Section 1: Data Processing Procedures and Personnel		
A. Information Systems	2.5	Partially met
B. Staffing	2.5	Partially met
C. Hardware Systems	3.0	Fully met
D. Security	2.5	Partially met
Section 2: Data Acquisition Capabilities		
A. Administrative Data (claims and encounter data)	2.5	Partially met
B. Enrollment Systems (Medicaid eligibility)	3.0	Fully met
C. Vendor Data Integrity	2.7	Fully met
D. Provider Data (compensation and profiles)	3.0	Fully met

ISCA history

As part of its EQR contract, Acumentra Health reviews RSN operations annually and performs an ISCA for each RSN every two years. APS Healthcare performed GCBH's first ISCA in 2004,¹ which resulted in six findings, followed by six in 2007 (one of which was a repeated finding from 2004).²

Overall, GCBH has been very responsive to previous ISCA recommendations, demonstrating the RSN's commitment to maintaining secure and efficient internal controls for Medicaid encounter data processing and reporting.

Related reports

GCBH had an information systems assessment performed by an independent auditor in 2007. The audit consisted of a thorough examination of GCBH's data center facilities and operations. The formal report³ issued to GCBH at the conclusion of the audit was provided to Acumentra Health for inspection.

GCBH performs an onsite UM and care management audit of BHO annually. The most recent audit was performed in June 2008. GCBH provided Acumentra Health with GCBH's 2008 audit report⁴ for inspection.

Washington's Medicaid Management Information System (MMIS)

During 2009, DSHS plans to replace its current MMIS with a new payment processing system called ProviderOne. RSNs and provider agencies will use ProviderOne to verify client eligibility, receive enrollment and payments, submit encounters and client demographics, and record inpatient admission utilization review determinations.

¹ APS Healthcare, Inc. *Washington State PIHP External Quality Report*. 2004

² APS Healthcare, Inc. *Information Systems Capability Assessment: Greater Columbia Behavioral Health Regional Support Network*. 2007.

³ Cerium Networks. *Assessment Report: Policy and Procedures Review, Internal and External Vulnerability Assessment*. For the period May 22, 2007, to May 24, 2007.

⁴ Greater Columbia Behavioral Health Regional Support Network. *BHO Onsite Annual Contract Audit*. For the period March 2007 to June 2008.

Section 1: Data Processing Procedures and Personnel

GCBH uses a Microsoft SQL Server 2005 database management system for Medicaid encounter data processing and for data analysis and reporting. The database runs on a Dell PowerEdge2950/Microsoft Windows Server 2003 rack server, with RAID configuration. The database server is currently under vendor warranty.

During January–August 2008, GCBH contracted with Jet Computer Support to provide administration, maintenance, and training for encounter data processing and other IS-related activities. In August 2008, the RSN terminated its contract with Jet Computer Support and hired a new chief information officer (CIO) to ensure proper administration, maintenance, and quality assurance (QA) for the SQL server database management system. The CIO maintains and administers all IS-related policies and procedures and performs data reporting and analysis.

GCBH employs one full-time database maintenance specialist to ensure proper administration of the Microsoft SQL Server database and perform encounter data processing. GCBH's written job descriptions for data processing and IS staff are not up to date, which is necessary to ensure that qualified people are hired to fill those positions and help the RSN meet its mission objectives.

Data processing and IS staff adhere to established productivity standards for meeting MHD service encounter reporting requirements.

GCBH's IT steering committee provides effective governance, strategic direction, and decision-making for IS-related projects. However, GCBH has no formal systems development methodology and QA process for maintaining the Microsoft SQL database. GCBH does not maintain up-to-date technical documentation for its information systems and encounter data processing system. The RSN does not use configuration and source code (version control) management software for its Microsoft SQL server database. Instead, GCBH programmers rename previous versions of files or programs, and edit new copy as necessary. Previous versions are stored and kept for reference with internal program documentation citing date, programmer, and reason for changes within the program or file.

GCBH has no formal hardware retention policy. Hardware replacement life cycles are chosen to balance the cost in money and effort associated with replacement against the benefits of new equipment. In general, GCBH replaces computers every three to four years. GCBH uses Microsoft Access and Excel for additional data analysis and reporting of Medicaid data. GCBH's reporting data reside on a Dell PowerEdge2950/Microsoft Windows Server 2003 rack server, with RAID configuration.

The Microsoft SQL server and data reporting server are located in the computer room of the GCBH facility. The entrance to the computer room is locked at all times, and access is limited to personnel with a legitimate need for access to perform their job.

GCBH performs nightly incremental backups and weekly full backups to a tape-based storage system. The backup tapes are stored in a locked cabinet located at the GCBH facility, and are transported offsite once a week to a safety deposit box. GCBH performs regular restoration testing of backup tapes to ensure that data are readily available for production.

GCBH maintains a Disaster Recovery Plan that is audited and tested annually to ensure that information systems are maintained, resumed, and/or recovered as intended. GCBH's contracted provider agencies demonstrated that they maintain current Disaster Recovery Plans.

GCBH's omission of some important activities, such as frequent scanning of the network for potential vulnerabilities, limits the effectiveness of the RSN's overall security-management process. The RSN also lacks a formal IT control framework to ensure a sustainable information security compliance program.

GCBH delegates authorizations for inpatient and outpatient mental health services to BHO. A credentialed UM specialist at BHO performed all authorization decisions on the basis of Access to Care standards and other information submitted by the provider agency.

BHO staff members manually entered service authorization data (enrollee demographics, diagnosis codes, GAF scores, Access to Care standards, eligibility, etc.) into Facets, a health plan administration application. Facets uses a Sybase database that runs on a HP-UX 11.23 operating system platform. BHO employs approximately four programmers to maintain the Facets system. Programming staff members receive both in-house and vendor training. BHO reported that the last major system upgrade to the Facets system had occurred in 2007.

BHO performed full backups nightly to a tape storage system. The unencrypted backup tapes were transported in a locked container to UnitedHealthcare's Crestline data facility, about 12 miles from the data center. BHO performed regular restoration testing of backup tapes to ensure that data are readily available for production.

BHO's parent company, UnitedHealthcare, performed regular penetration testing and auditing of BHO's network security. BHO reported that it maintained a current Disaster Recovery Plan that was frequently audited and tested. BHO maintained a hot site (active backup site from which to operate following a disaster) at UnitedHealthcare's Crestline data facility.

During the review period, GCBH lacked effective monitoring and oversight of BHO-contracted activities. BHO collected and warehoused Medicaid enrollment and service utilization information in its Facets system without express permission from GCBH to do so. Also, GCBH had no written policies in place to establish how BHO should access, store, transport, and delete (upon termination of GCBH's contract with BHO) Medicaid enrollment and service utilization information residing on BHO systems.

BHO denied Acumentra Health's request to perform a security walkthrough of BHO's data facilities. Therefore, Acumentra Health cannot affirm BHO's compliance with relevant federal standards regarding the security of GCBH's Medicaid data.

Section 1A: Information Systems

Score: 2.5 (Partially met)

This section provides a detailed review of the RSN's systems development life cycle (SDLC) and supporting environments, including database management systems and/or billing software, programming languages, and training for programmers.

A data storage and processing system that facilitates valid and reliable performance measurement would have the following characteristics:

- flexible data structures
- no degradation of processing with increased data volume
- adequate programming staff

- reasonable processing and coding time
- ease of interoperability with other database systems
- data security via user authentication and permission levels
- data locking capability
- proactive response to changes in encounter and enrollment criteria
- adherence to the federally required format for electronic submission of encounter data

To ensure accurate and complete performance measure calculation, best practices in computer programming include:

- good documentation
- clear, continuous communication between the client and the programmers on client information needs (e.g., analysis needs, reports)
- a quality assurance process
- version control
- continuous professional development of programming staff

Strengths

- GCBH hired a CIO in October 2008 to oversee the RSN's information systems.
- GCBH's IT governance provides effective strategic direction and decision making for IS-related projects

Opportunities for improvement

- GCBH lacks a formal, written QA process for its information systems that process Medicaid encounter data, analyze data, and generate reports.
- GCBH lacks effective monitoring and oversight of activities contracted to Jet Computer Support and BHO.
- GCBH does not use configuration and source code (version control) management software for its SQL Server database.
- GCBH does not maintain technical documentation of its information systems and encounter data processing system.

Recommendations

- GCBH needs to design and implement a formal, written QA process for Medicaid encounter data processing and for data analysis and reporting.
- GCBH needs to conduct effective oversight and monitoring of Jet Computer Support and BHO-contracted activities, such as through contract management, fiscal monitoring, QA, performance measures, and regular audits.

- GCBH needs to conduct effective monitoring and oversight of any activities delegated to a service authorization contractor, based on written policies and instructions as to how the contractor should access, store, transport, and delete (upon termination of the contract) Medicaid enrollment and service utilization information residing on the contractor's systems.
- GCBH needs to use configuration and source code (version control) management software for its SQL server database.
- GCBH needs to develop technical documentation for all mission-critical information systems, including its SQL-based encounter data processing system. Documentation should include a data dictionary and stored procedures, functions, triggers, relationships, and queries.

Finding #1

During the review period, GCBH lacked proper oversight and monitoring of BHO-contracted activities regarding the collection and storage of Medicaid enrollment and service utilization information. The RSN had no written policies in place addressing access, storage, transportation, and deletion of this information by the contractor.

This represents a violation of state and RSN contracts.

Section 1B: Staffing**Score: 2.5 (Partially met)**

This section assesses the physical access by the RSN's staff to IT assets, as well as specific training requirements for programmers and new staff.

Best practices for sustaining quality in processing encounter data include

- adequately trained staff for processing and tracking errors in encounter data submission
- a comprehensive, documented formal training process for new hires and experienced professionals
- refresher courses for staff when updates occur and when new systems are implemented
- established and monitored productivity goals
- low staff turnover

Strengths

- GCBH data processing and IS staff adhere to established productivity standards for meeting the state's service encounter reporting requirements.

Opportunities for improvement

- GCBH lacks a training manual and/or collection of written standard operating procedures to help new IS employees learn how to maintain and administer the RSN's information systems, develop and analyze reports, and process encounter/claims data.

- GCBH's written job descriptions for data processing and IS staff are not up-to-date, which is necessary to ensure that qualified people are hired to fill those positions and help the RSN meet its mission objectives.

Recommendations

- GCBH needs to develop a training manual and/or collection of written standard operating procedures to guide new IS employees and to ensure that procedures are followed as intended.
- GCBH needs to update written job descriptions for all data processing and IS staff and verify that staff members have the necessary qualifications and skill sets.

Section 1C: Hardware Systems

Score: 3.0 (Fully met)

This section assesses the RSN's network infrastructure and hardware systems.

Best practices for sustaining quality hardware systems include

- infrastructural support that includes maintenance and timely replacement of computer equipment and software, disaster recovery procedures, adequate training of support staff, and a secure computing environment
- redundancy or duplication of critical components of a hardware system with the intention of increasing reliability of the system, usually in the case of a backup or fail-safe

Strengths

- GCBH's servers are housed in a secure location away from personnel who are not authorized to have physical access to them.

Section 1D: Security

Score: 2.5 (Partially met)

This section assesses the RSN's information systems for integrity and the ability to prevent data loss and corruption. A security walkthrough of the computer area and/or data center is assessed for the possibility of a breach in security measures.

Best practices for securing data are summarized below.

- A well-run security management program includes IT governance, risk assessment, policy development, policy dissemination, and monitoring. Each of these activities should flow into the next in a cycle of activity to ensure that policies remain current and that important risks are addressed.
- Computer systems and terminals should be protected from unauthorized access through use of a password system and security screens. Passwords should be changed frequently and reset whenever an employee terminates.
- Paper-based claims and encounters should be in locked storage facilities when not in use.
- Data transferred between systems/locations should be encrypted.

- A comprehensive backup plan includes, but is not limited to, scheduling, rotation, verification, retention, and storage of backups to provide additional security in the event of a system crash or compromised integrity of the data. Managers responsible for processing claims and encounter data must be knowledgeable of their backup schedules and of retention of backups to ensure data integrity.
- To ensure integrity, backups should be verified periodically by performing a “restore” and comparing the results. Ideally, annual backups would be kept for seven years or more in an offsite climate-controlled facility.
- Databases and database updates should include transaction management, commits, and rollbacks. Transaction management is useful when making multiple changes in the database to ensure that all changes work without errors before finalizing the changes. A database commit is a command for committing a permanent change or update to the database. A rollback is a method for tracking changes before they have been physically committed to disk. This prevents corruption of the database during a sudden crash or some other unintentional intervention.
- Formal controls in the form of batch control sheets or assignment of a batch control number should be used to ensure a full accounting of all claims received.

Strengths

- GCBH performs nightly incremental backups and weekly full backups to a tape backup system. Backup tapes are transported and stored offsite weekly.
- GCBH maintains a Disaster Recovery Plan that is audited and tested annually to ensure that information systems can be maintained, resumed, and/or recovered as intended.
- GCBH’s contracted provider agencies store backup data appropriately, either offsite or in fireproof media safes.
- GCBH’s contracted provider agencies maintain current Disaster Recovery Plans.
- GCBH and BHO maintain current “Antivirus Guidelines” policies and up-to-date antivirus protection on all computers and servers.
- UnitedHealthcare performs regular penetration testing and auditing of BHO’s network to ensure that proper security measures and safeguards are in place.

Opportunities for improvement

- GCBH’s IT written security policies and procedures are not up-to-date or managed within an organized control framework (a set of generally accepted measures, indicators, processes, and best practices that help an organization improve its security posture). This makes it difficult for Acumentra Health to affirm that GCBH’s current information security policies and procedures are adequate.
- Although BHO transported backup tapes in a locked container, the tapes were not encrypted before transportation to the offsite location.
- BHO denied Acumentra Health’s request to perform a security walkthrough of BHO’s data facilities.

Recommendations

- GCBH needs to update its written policies and procedures for information security, and adopt an IT control framework to help build control structure and ensure a sustainable security compliance program.
- BHO needs to encrypt its backup tapes before transporting them to the offsite location.
- GCBH needs to review contractual requirements regarding the EQRO's access to data facilities and information necessary to perform the ISCA. The RSN needs to monitor the service authorization contractor's compliance with these contract requirements and take steps, as necessary, to enforce the contract.

Finding #2

BHO denied Acumentra Health's request to perform a security walkthrough of BHO's data facilities. As a result, Acumentra Health cannot affirm BHO's compliance with relevant federal standards regarding the security of Medicaid data during the review period.

This represents a violation of state and RSN contracts.

Section 2: Data Acquisition Capabilities

GCBH's contracted provider agencies use various practice management systems, such as Practice Partner (McKesson), Avatar (NetSmart), and Anasazi (Anasazi Software) to collect and submit encounter data electronically. Each agency submits encounter data to a central repository at the RSN. Encounter data are sent through electronic data interchange (EDI) translation and mapping software that screens the data to ensure that all data submission standards are met, before exporting a flat file to the Microsoft SQL server database management system for additional encounter data processing.

During processing, GCBH performs further automated edits and validity checks of procedure and diagnosis code fields, eligibility verification, service authorization, and detection of duplicate encounter claims. If an error occurs during processing, the provider agency is notified to correct the error(s) and resubmit. Screened encounter data submissions are then converted into a HIPAA-compliant 837 format before transmitting to MHD via a secure shell connection once a month. As required by MHD, GCBH verifies and certifies batched encounter data for accuracy and completeness before transmitting the data to directories in MHD-CIS. The GCBH administrator is responsible for ensuring GCBH's compliance with state Medicaid reporting requirements.

GCBH perform minimal monthly reconciliation activities to verify the authorization status of each encounter service, provider credentials, member-month eligibility files, member ID codes, and income source and program codes. GCBH does not supply exception and aging reports to the provider agencies to enable them to examine possible encounter errors and make corrections.

Acumentra Health interviewed staff of three contracted provider agencies to gain understanding of the flow of encounter data from providers to GCBH, which influences data timeliness and completeness. These interviews targeted the agencies' processes for validating data; diagnoses and procedure codes captured in their billing systems; handling of Medicaid and Medicare dual enrollees; types of encounter data forwarded to GCBH; and methods for submitting encounter data to GCBH.

GCBH maintains up-to-date provider profile information in an accessible repository that enables the RSN's member services staff to help Medicaid enrollees make informed decisions about access to providers that can meet their special care needs, such as non-English languages or clinical specialties. GCBH conducts an onsite audit of all provider agencies every year and has confirmed that all agencies offer access to their facilities in compliance with the Americans with Disabilities Act.

Section 2A: Administrative Data

Score: 2.5 (Partially met)

This section provides a detailed review of the RSN's submission of accurate information, process for describing differences when verifying accuracy of submitted claims, and data assessment and retention.

To ensure the validity and timeliness of the encounter and claims data used in calculating performance measures, it is important to have documented standards, a formal quality assurance of input data sources and transactional systems, and readily available historical data.

Best practices include:

- automated edit and validity checks of procedure and diagnosis code fields, timely filing, eligibility verification, authorization, referral management, and a process to remove duplicate claims and encounters
- a documented formal procedure for rectifying encounter data submitted with one or more required fields missing, incomplete, or invalid. Ideally, the data processor would not alter the data until receiving written notification via a paper claim or from the provider.
- periodic audits of randomly selected records conducted internally and externally by an outside vendor to ensure data integrity and validity. Audits are critical after major system upgrades or code changes.
- multiple diagnosis codes and procedure codes for each encounter record, distinguishing clearly between primary and secondary diagnoses
- efficient data transfer (frequent batch processing) to minimize processing lags that can affect data completeness

Strengths

- GCBH's contracted provider agencies submit encounter data electronically, passing through a stringent screening process to verify data accuracy and validity.

Opportunities for improvement

- GCBH does not provide exception and aging reports to the provider agencies to enable them to examine possible encounter errors and to make corrections.

Recommendations

- GCBH needs to develop and distribute exception and timeliness reports to its provider agencies.

Section 2B: Enrollment Systems

Score: 3.0 (Fully met)

This section assesses the RSN's Medicaid enrollment systems pertaining to enrollment and disenrollment processes, tracking claims and encounter data, Medicaid enrollment data updates, Medicaid enrollment code, and data verification.

Timely and accurate eligibility data are paramount in providing high-quality care and for monitoring services reported in utilization reports.

Best practices are summarized below.

- Access to up-to-date eligibility data should be easy and fast.
- Enrollment data should be updated daily or in real time.
- The enrollment system should be capable of tracking an enrollee's entire history within the RSN, further enhancing the accuracy of the data.

Strengths

- GCBH performs frequent audits of MHD's eligibility enrollment files to ensure that they are free of anomalies.

Section 2C: Vendor Data Integrity**Score: 2.7 (Fully met)**

This section assesses how the RSN integrates vendor data with administrative data for completeness of data and quality of data.

An ideal vendor data integration system includes:

- converting data, including code sets, for compatibility with the state's data systems
- receiving only member-level data, as opposed to aggregate data
- incorporating other data (e.g., dental care, primary care manager, history of care) to provide a more complete picture of a member's care
- ensuring consistency in the data for required fields, including multiple diagnosis and procedures codes

Strengths

- GCBH transmits all encounter data in HIPAA-compliant 837 format to MHD.

Section 2D: Provider Data**Score: 3.0 (Fully met)**

This section assesses how the RSN maintains its provider directory, as well as the RSN's fee schedules and contractual payment updates.

An RSN designs its provider compensation structure to balance contractual expectations, the needs of enrolled populations, and capitation rates set by the state. To set appropriate capitation rates, the state relies on accurate and timely encounter data.

A good payment structure is critical to ensure reasonable and timely compensation, which encourages an accessible, qualified community network of providers to continue to provide service to Medicaid enrollees.

An ideal provider profile directory, which allows enrollees and staff to make informed choices, would list all available providers, including their gender, credentials and specialties, languages spoken, whether they use sign language, whether they offer interpretive services, and whether the office is ADA-certified.

Strengths

- GCBH maintains up-to-date provider-level profile information in an accessible repository, from which the RSN can generate reports enabling the member services staff to help enrollees make informed decisions about access to providers that can meet their special care needs upon request.

Appendix A. PIP Validation Methodology

All managed care organizations that serve Medicaid or Medicare enrollees must conduct two Performance Improvement Projects (PIPs) each year aimed at improving care outcomes. One of the PIPs must focus on improving clinical care, and the other on improving nonclinical services. To ensure that the PIPs are designed, conducted, and reported in a methodologically sound way, the PIPs are validated each year by external quality review.

The validation protocol presented here is based on the protocol published by the Centers for Medicare & Medicaid Services (CMS) in May 2002.** The validation procedure consists of the following activities:

- Part 1: Assessing the methodology for conducting the PIPs
- Part 2: Evaluating the validity and reliability of PIP results

Part 1: Assessing the methodology for conducting PIPs

Assessing the PIP methodology consists of the following 10 steps.

- Step 1:** Review the study topic
- Step 2:** Review the study question
- Step 3:** Review the selected study indicator(s)
- Step 4:** Review the identified study population and sampling methods
- Step 5:** Review the data collection procedures
- Step 6:** Assess the improvement strategy
- Step 7:** Review the data analysis and interpretation of study results
- Step 8:** Assess the likelihood that reported improvement is “real” improvement
- Step 9:** Assess whether the RSN has documented additional interventions or modifications
- Step 10:** Assess whether the RSN has sustained the documented improvement

Each step addresses the extent to which the PIP complies with a particular standard in the CMS protocol. The specific criteria for assessing compliance with each standard are listed on the following pages.

Step 1. Review the study topic

Criterion 1.1. The topic was based on relevant information.

The topic must reflect the demographics, prevalence of diagnoses, potential risks, or service needs of the RSN’s Medicaid population. Examples of relevant information from which the topic may be selected include

- utilization patterns that reflect deficiencies in service
- enrollee or provider input

** U.S. Department of Health and Human Services, Centers for Medicare & Medicaid Services. *Validating Performance Improvement Projects*. Final Protocol, Version 1.0. May 1, 2002.

- data from surveys or from grievance or appeals processes that indicate underlying issues in care or services
- data comparing the RSN's performance in standardized measures with the performance of comparable organizations

Criterion 1.2. The topic was determined through a systematic selection and prioritization process.

The topic must aim to improve care and services for a large portion of the RSN's Medicaid population. Examples of evidence for a systematic selection and prioritization process include

- descriptions of data that support the topic selection
- documentation of opportunities for soliciting enrollee or provider input

Example—clinical: Developing an algorithm to standardize prescribing patterns for specific diagnoses

Example—nonclinical: Assessing and improving the accessibility of specific services; reducing disparities in services provided to minority enrollees as compared with non-minority enrollees; designing processes to improve care coordination

Step 2: Review the study question

Criterion 2.1. The RSN has clearly defined the question the study is designed to answer.

The question

- is stated so as to create a framework for data collection, analysis, and interpretation
- can be answered quantitatively or qualitatively by the PIP study

Step 3: Review the selected study indicator(s)

Each project should use at least one quality indicator for tracking performance and improvement.

Criterion 3.1. The indicator is an objective, measurable, clearly defined, unambiguous statement of an aspect of quality to be measured. The indicator statement clearly identifies

- who—the eligible population
- what—the care or service being evaluated
- when—the specific care or service time frame

The indicator description includes

- *definition of the denominator:* the eligible population, identifying inclusions and exclusions (criteria used to determine the eligible population, such as age, gender, and diagnosis and enrollment status)
- *definition of the numerator:* the outcome achieved or service rendered to the eligible population
- dates of service, procedure codes for administrative data, or acceptable medical record data
- the basis for adopting the indicators (e.g., that they are generally used in the industry—these are preferred; or if the RSN developed its own indicators either at the outset of the

study or as a means of narrowing the focus for the study, a description of how the indicator was developed)

Criterion 3.2. The indicator can measure enrollee outcomes, enrollee satisfaction, or processes of care strongly associated with improved enrollee outcomes.

- Indicators for clinical care should include at least some measure of change in mental health status or functional status or process-of-care proxies for these outcomes.
- Process measures may be used as proxies for outcomes only if validity has been established in the literature or by expert consensus.

Step 4: Review the identified study population and sampling methods

Criterion 4.1. The study population is clearly defined and includes all RSN enrollees who are eligible for the study. The study population

- represents the RSN's entire Medicaid population that fits the eligibility criteria described by the indicators
- is defined in terms of enrollment time frames

If the study population is an "at risk" subpopulation,

- the RSN has clearly defined the risk and the subpopulation
- the RSN has provided a rationale for selecting the subpopulation

The RSN may use a sample for the study. *If a sample is used*, the RSN must

- provide the rationale for using a sample
- explain the sampling methodology that produced a representative sample of sufficient size (see below)

Criterion 4.2. When the study includes the RSN's entire eligible population, the data collection approach captures all eligible enrollees.

Criterion 4.3. If a sample is used, the RSN has described the method for determining the sample size.

If a clinical or service condition is being studied for first time, the true prevalence or incidence is not likely to be known. Large samples would be needed to establish a valid baseline. The sampling methodology should include the

- rationale for the size of the sample based on the RSN's eligible population
- frequency of the occurrence being studied
- confidence interval and acceptable margin of error

Criterion 4.4. The sampling methodology is valid and protects against bias.

The description establishing validity and bias protection should include

- a description of the sampling type (e.g., probability or nonprobability; stratified random or convenience)
- the rationale for selecting the sampling type

Criterion 4.5. The sample is large enough to allow calculation of statistically meaningful measures.

Step 5: Review the data collection procedures

The data collection process must ensure that the data collected on the indicator(s) are valid and reliable. Validity indicates the accuracy of the data. Reliability indicates the repeatability or reproducibility of a measurement.

Criterion 5.1. The study design clearly specifies the data to be collected.

- Data elements are defined unambiguously.
- Descriptive terms (e.g., “high,” “medium,” “low”) are defined numerically.

Criterion 5.2. The data sources are clearly identified.

- Examples of data sources include medical records, encounter and claim systems, or surveys.
- Time frames for collecting baseline and remeasurement data are specified.

Criterion 5.3. The study design describes a systematic method of collecting valid and reliable data on all enrollees to whom the indicator(s) apply.

- *For administrative data* (claims or encounter data), the data are complete and include all data submitted by providers. If data collection is automated, the RSN has provided the data specifications and algorithms used.
- *For medical record abstraction* or review of other primary sources, the RSN has documented the steps taken to ensure that the data were consistently extracted and recorded.

Criterion 5.4. For manual data collection, the data collection instrument produces consistent, accurate data that are appropriate for the study indicator(s) and that can be used over the study time period.

- The data abstraction process is documented, including a data collection instrument with clear guidelines and definitions.
- Reviewer training is documented, including guidelines, definitions, instructions on how to use the instrument, and instructions on how to handle situations not covered in the documentation.
- Methods of ensuring inter-rater reliability are provided.

Criterion 5.5. The study design includes a prospective data analysis plan that specifies

- whether qualitative or quantitative data or both are to be collected
- whether data are to be collected on the entire population or a sample
- whether measures are to be compared to previous results or similar studies; if comparing measures between two or more studies, the appropriate statistical test must be identified
- whether the PIP is to compare to the performance of different sites or clinics; if comparing performance of two or more entities, the statistical design and analysis must reflect the comparisons

Criterion 5.6. For manual data collection, the study design includes the rationale and staff qualifications for the data abstraction. The documentation

- indicates that staff received training on the use of the data collection instrument
- indicates the inter-rater reliability of the data collection instrument

Step 6: Assess the improvement strategy

An improvement strategy is defined as an intervention or set of interventions designed to change behavior at an institutional, practitioner, or enrollee level. The effectiveness of the interventions is determined by measuring a change in performance based on the quality indicator(s).

Criterion 6.1. The RSN has reported on at least one intervention undertaken to address causes or barriers identified through the quality improvement process. The interventions were

- systemic—i.e., designed to affect a wide range of participants through long-term system change
- timed to effect change after the baseline measurement and prior to remeasurement
- effective in improving the indicator for the population(s) studied
- reasonably expected to result in measured improvement
- free of major confounding variables that were likely to affect outcomes

Step 7: Review the data analysis and interpretation of study results

The RSN calculated its performance in the indicators by adhering to appropriate statistical analysis techniques as defined in a data analysis plan.

Criterion 7.1. The analysis of the findings adheres to a data analysis plan that used an appropriate statistical methodology.

Criterion 7.2. The study results, including numerical results and findings, are presented in a manner that provides accurate, clear, and easily understood information.

Criterion 7.3. The analysis identifies

- baseline and remeasurement data
- the statistical significance of any differences between these data sets
- any factors that influenced comparability
- any factors that threatened the validity of the findings

Criterion 7.4. The analysis is based on continuous quality improvement and focused on delivery system processes.

- The interpretation of the success of the PIPs included lessons learned and identified barriers to success or presented a hypothesis about less-than-optimal performance.
- Follow-up activities addressed the barriers identified.

Step 8: Assess the likelihood that reported improvement is “real” improvement

The reported improvement represents “real” change and is not due to a short-term event unrelated to the intervention or to chance.

Criterion 8.1. The RSN has used the same methodology for measuring the baseline as for conducting remeasurement, or the RSN has described and justified a change in measurement methodology.

Criterion 8.2. The analysis discussion includes documentation of

- quantitative improvement in processes related to the study question
- improvements in associated outcomes of care

Criterion 8.3. The analysis discussion describes clearly how the interventions relate to the improvement in performance.

Criterion 8.4. The analysis includes an appropriate calculation of statistical significance, with a discussion of the test used to calculate significance. (There is no required level of significance.)

Step 9: Assess whether the RSN has documented ongoing or additional interventions or modifications

The RSN has documented sustained improvement by remeasuring performance on the initial study indicator(s) at regular intervals. (*Note:* Interventions may be modified between remeasurement periods to address barriers or to take advantage of study findings.)

Criterion 9.1. The RSN has documented ongoing or additional interventions or modifications that are based on earlier data analyses.

Step 10: Assess whether the RSN has sustained the documented improvement

Criterion 10.1. Sustained improvement is demonstrated by additional remeasurements conducted over comparable time periods.

PIP scoring

Each compliance standard has a potential score of 100 points for full compliance, with lower scores for lower levels of compliance, as shown in Table A-1.

Table A-1. Compliance standard rating and scoring scheme.

Rating	Definition	Points
Full compliance	Meets or exceeds the essential criteria	100
Substantial compliance	Meets essential criteria, has minor deficiencies	75–99
Partial compliance	Meets criteria with deficiencies in some areas	50–74
Minimal compliance	Marginally meets criteria	25–49
Non-compliance	Does not meet essential criteria	0–24

The scores for each standard are weighted and combined to determine the overall PIP score, as shown in Table A-2.

Table A-2. Weighting of standard scores in overall PIP score.

Standard	Criterion number(s)	Scoring weight
Demonstrable Improvement		
1 Selected study topic is relevant and prioritized	1.1, 1.2	5%
2 Study question is clearly defined	2.1	5%
3 Study indicator is objective and measurable	3.1, 3.2	15%
4 Study population is clearly defined and, if sample is used, appropriate methodology is used	4.1, 4.2, 4.3, 4.4, 4.5	10%
5 Data collection process ensures that data are valid and reliable	5.1, 5.2, 5.3, 5.4, 5.5, 5.6	10%
6 Improvement strategy is designed to change performance based on the quality indicator	6.1	15%
7 Data are analyzed and results interpreted according to generally accepted methods	7.1, 7.2, 7.3, 7.4	10%
8 Reported improvement represents “real” change	8.1, 8.2, 8.3, 8.4	10%
Demonstrable Improvement Score		80%
Sustained Improvement		
9 RSN has documented additional or ongoing interventions or modifications	9.1	5%
10 RSN has sustained the documented improvement	10.1	15%
Sustained Improvement Score		20%
Overall PIP Score		100%

The overall score is weighted 80 percent for demonstrable improvement in the first year (Standards 1–8) and 20 percent for sustained improvement in later years (Standards 9–10). Thus, for a PIP that has completed one remeasurement, the maximum overall score is 80 points (80 percent x 100 points for full compliance). If the PIP has progressed to a second remeasurement, enabling reviewers to assess sustained improvement, the maximum score is 100 points (20 percent x 100 points for full compliance).

Example scoring worksheet

Table A-3 shows an example scoring calculation for a PIP with both demonstrable and sustained improvement.

Table A-3. Example scoring worksheet.

Standard	Compliance rating	Assigned points	Weight	Points score
Demonstrable Improvement				
1	Fully met	100	5%	5.00
2	Fully met	100	5%	5.00
3	Partially met	50	15%	7.50
4	Partially met	50	10%	5.00
5	Fully met	100	10%	10.00
6	Minimally met	25	15%	3.75
7	Partially met	50	10%	5.00
8	Partially met	50	10%	5.00
Demonstrable Improvement Score				46.25
Sustained Improvement				
9	Substantially met	75	5%	3.75
10	Partially met	50	15%	7.50
Sustained Improvement Score				11.25
Overall PIP Score				57.50

Part 2: Evaluating the validity and reliability of PIP results

This part of the PIP review aims to establish an overall level of confidence in the validity and reliability of the PIP findings. Levels of confidence are assigned one of the ratings shown below.

High confidence in reported RSN PIP results

Confidence in reported RSN PIP results

Low confidence in reported RSN PIP results

Reported RSN PIP **results not credible**.

This portion of the assessment evaluates whether the PIP used an appropriate study design to address the project's objectives and questions of interest. Since PIPs are observational studies, the influence of bias and confounding factors on the project results must be evaluated. Bias occurs when some systematic error is introduced during study design. Reviewers evaluate the presence of selection and observation biases to assess the accuracy of reported results, as well as the presence of any confounding factors.

In addition, the review assesses

- external validity—the extent to which the study results can be generalized or applied to other populations
- internal validity—whether the study measured what it was intended to measure

Appendix B. Greater Columbia Behavioral Health PIP Documentation

2008

Greater Columbia Behavioral Health Regional Support Network / Prepaid Inpatient Health Plan

Nonclinical Performance Improvement Project

Improved Delivery of Non-Crisis Outpatient Appointments After a Psychiatric Hospitalization

***** DRAFT *****

September, 2009

1. Introduction

1.1 Background

Good clinical care for individuals with serious mental illnesses involves providing rapid follow-up care after discharge from an inpatient facility (e.g., community psychiatric hospital or evaluation and treatment facility). In 1998, Nelson et al collected complete data on 3,113 psychiatric admissions; 542 were readmissions. Of the 542 patients who were re-hospitalized, 406 (75 percent) did not keep at least one outpatient appointment after discharge from their initial admission. It was concluded that patients who did not have an outpatient appointment after discharge were two times more likely to be re-hospitalized in the same year as patients who kept at least one outpatient appointment.

Others have shown retrospectively that failure to engage in outpatient care after discharge from an inpatient psychiatric facility increases the likelihood of readmission and can compromise successful community adjustment (Kruse, 2002). During a six-month period beginning, July 1, 1998, Kruse et al reviewed discharge summaries for 877 of 894 patients who were discharged from the adult units of a Midwest university-affiliated psychiatric hospital. Data were obtained concerning scheduled follow-up appointments, appointments that were kept, and readmissions. Only patients whose scheduled follow-up appointments were at the university outpatient clinic were included in the study. Of the 877 completed discharge summaries, 158 met the study criteria. Twenty-nine patients (18 percent) did not attend their scheduled follow-up appointment. After controlling for predisposing factors (i.e., sex, race, age), enabling factors (e.g., type of insurance, travel distance) and need factors (e.g., diagnosis), Kruse et al concluded that patients whose scheduled follow-up appointments were within two weeks of discharge were about four times as likely to keep their appointment as patients whose scheduled follow-up appointments were more than two weeks after discharge.

Ideally, for individuals with mental illnesses, the timing of aftercare would be within seven days of discharge from an inpatient psychiatric facility. Offering and scheduling an outpatient follow-up appointment after discharge are critical steps toward ensuring service provision occurs, but they may not be enough to secure true engagement. Compton et al determined that not having an established outpatient clinician, the number of days from hospital discharge to the follow-up appointment, axis IV problems related to the primary support group, and involuntary legal status at discharge or leaving against medical advice are statistically significant predictors

of whether an individual will keep the first scheduled outpatient appointment. Engaging the individual before discharge establishes a relationship in the mental health community beyond the inpatient facility and provides the person with insight into the benefits of attending the first follow-up outpatient appointment. Orlosky et al observed a statistically significant increase in the percentage of patients keeping the follow-up outpatient appointment when designated staff is involved in care coordination after hospital discharge. In 2003, data were collected from 1,313 psychiatric discharges showed 66.6% patients kept an outpatient appointment within 7 days of discharge; in 2004, after implementing the use of care coordination, 71.6% of 1,804 psychiatric discharges kept an outpatient appointment within 7 days of discharge.

1.2 Study Topic

Statewide, the rate of individuals seen in non-crisis outpatient services within seven days of discharge from a community hospital or evaluation and treatment facility has been declining in recent years. A review conducted by the Washington State Department of Social and Health Services, Mental Health Division (MHD) suggested that, during the 2006-2007 fiscal year, only 51% of the Medicaid consumers discharged from these settings were seen within the desired 7-day period, a rate well below the 80% standard established by the MHD. The RSN administrators and MHD agreed that this finding represented an opportunity to work together by developing a commonly agreed upon performance measure, and centrally generating a dataset responsive to commonly developed criteria, for the purpose of each RSN conducting its own Performance Improvement Project (PIP) focused on improving performance in this area. The data collection parameters for the study were developed by a statewide work group, and given the availability of historical data, the Mental Health Division agreed to provide both the baseline and the subsequent, periodic data necessary to the study. It was determined that each dataset would encompass a period beginning July 1, 2006, and expanding by three months with each quarterly release of an updated dataset. It also was determined that each RSN would identify an intervention it deemed appropriate to the needs of the population it served, and that the data provided by the MHD would serve for measuring the impact of an RSN's intervention. In anticipation of the first MHD dataset in November, 2007, the Quality Management Oversight Committee, a sub-committee of the GCBH Board of Directors, agreed during its October meeting to participate in this endeavor. However, as discussed in Section 5, below, the first dataset was not delivered by the Mental Health Division until August of 2008, and attempts to

validate both it and subsequent releases raised many concerns regarding the validity of the data. Ultimately, these concerns, coupled with a discovery that the RSN could directly access the data being used by the MHD to generate the PIP datasets, led to the decision that the RSN would use the data it could access directly to construct its own datasets, applying the data collection rules developed by the statewide PIP team.

2. Study Question

The PIP study question is: *Did notification by the GCBH Care Coordinators to GCBH Providers that an “unassigned” individual in their service area had been admitted to an inpatient setting significantly increase the percentage of Medicaid-enrolled, adult consumers who received non-crisis outpatient services within seven days of discharge from a community hospital?*

3. Outcome Indicator

The outcome indicator is the rate of adherence to the “within seven days of discharge” standard established by the Mental Health Division. This indicator was developed by the statewide PIP team; it was adopted by the GCBH Quality Management Oversight Committee when it agreed to participate in the statewide PIP. Although the RSN later decided to construct its own dataset, as stated earlier, it retained the indicator developed by the statewide team. The numerator and denominator statements for the indicator are presented below; definitions for the terms in these statements are included in the next two sections of this report.

**Consumers in the denominator who have received
a non-crisis outpatient service within seven days of discharge.**

**Medicaid-enrolled adult consumers discharged
from a community hospital**

This indicator was applied to the entire sample for each of the two periods—Baseline and Intervention/Follow-up—to produce an overall performance score for each. Additionally, to further evaluate the effectiveness of the intervention, the sample for the Intervention/Follow-up period was stratified into two groups and the indicator was applied as follows:

- (1) Group 1, Consumers On Whose Behalf the Care Coordinators Intervened: Consumers identified as “unassigned,”—i.e., consumers who appeared not to have received outpatient

services from a GCBH provider during the two to three months prior to admission to an inpatient setting—who were discharged from an inpatient setting during the period defined for measuring the effectiveness of the intervention.

**Consumers in the denominator who received
a non-crisis outpatient service within seven days of discharge.**

**Medicaid-enrolled adult consumers discharged from a
community hospital, on whose behalf the Care Coordinators intervened**

(2) Group 2, Consumers For Whom No Intervention Occurred: All other consumers discharged from an inpatient episode of care during the Intervention/Follow-up period.

**Consumers in the denominator who received
a non-crisis outpatient service within seven days of discharge.**

**Medicaid-enrolled adult consumers discharged from a
community hospital, on whose behalf the Care Coordinators did not intervene**

4. Study Population

The population for this study included all inpatient episodes of care for adult Medicaid consumers in a community hospital, *insofar as said episodes appeared in the MAA Paid Claims database*. Apart from the limitations imposed by when/whether a billing for the inpatient episodes occurred, no sampling was done. “Adult” consumers are those 18 years of age or older on the day of discharge from inpatient care, where the age was a calculated field subtracting the date of birth from the date of discharge, and rounding down to the nearest whole number. Because Medicaid eligibility can change from month to month for some consumers, identification as a “Medicaid consumer” was based on an individual’s eligibility in the month of discharge from the inpatient setting. Individuals with dual (Medicare-Medicaid) eligibility were included in the study, as were individuals with special health care conditions. Consumers discharged from one inpatient facility and readmitted to another within 24 hours (i.e., on the same *or* next calendar day) were considered transfers rather than discharges and were not included for the purposes of this study. There was no length of stay requirement. The 12-month Baseline measurement period for this study, during which the RSN averaged 33 discharges per month, began 6/1/07 and ended 5/31/08. The Intervention Period began on 6/1/08 and continued

for seven months, through 12/31/08. During this period, the RSN averaged 28 discharges per month—a decrease that probably reflects the RSN’s continuing emphasis on increasing the use of less restrictive alternatives to inpatient care.

Among the 398 Medicaid-eligible consumers included in the Paid Claims data for the Baseline period were 10 (2.5%) for whom no RSN identification number existed, indicating they had never received either crisis or outpatient services from a GCBH provider; this rate remained consistent for the 198 consumers included in the intervention phase. Though little can be known about this proportion of the sample, these individuals may represent consumers whom the RSN had no opportunity to serve due to having no means of knowing about their inpatient stays unless notified by the facility where the episode of care occurred.

5. Data Description and Data Collection

As stated earlier, the original design of this study called for use of datasets delivered by the Mental Health Division to the RSN. However, validation processes subsequent to the release of each dataset identified issues raising significant questions about the accuracy of the data and its congruence with the established design parameters. For example, pertaining to the dataset released by the MHD in June, 2009, among the 431 records falling within the baseline period for this PIP were 12 discharges followed by an admission, on the same or next calendar day, to Eastern State Hospital. Under the criteria for this study, such discharge dates would be considered transfers, and would therefore not be eligible for inclusion in the dataset. Also of concern was the finding that the Medicaid eligibility designation in 3% of the records in the MHD dataset did not match the eligibility shown for the month of discharge in the eligibility data available to the RSN via the MHD Intranet. Given these concerns, and an earlier finding that the MHD’s process for matching consumers in the MMIS data with those in the RSN’s encounter data had resulted in the identification of many fewer events of routine outpatient services than the RSN was able to identify during its data validation processes, when the Quality Manager became aware of the RSN’s ability to directly access all the data necessary to the study, a decision was made to use RSN-constructed datasets, generated in accord with the parameters established for the statewide study. The RSN’s processes for generating these datasets are described below; they were accomplished primarily with Microsoft Excel and Access, though some of the matching of consumers across databases had to be done manually to ensure accuracy.

5.1 Data Description

To construct the datasets used for this PIP, the RSN drew from the four sources of data shown in the following table. The specific fields used from each source are identified in Appendix B, which also includes a list of all fields in each of the downloaded databases.

Data	Source
Paid Claims data for community hospitals and E & T facilities	MHD Intranet: Database Menus > Data Extracts > Community Hospitals > Community Hospital Bills (Headers).
ESH admission/discharge data	MHD Intranet: Database Menus > Data Extracts > State Hospital > Admissions & Discharges
Medicaid Eligibility data	MHD Intranet: Database Menus > Data Extracts > MMIS Eligibility > MMIS-Eligibles by RSN
Outpatient Services data	GCBH Encounter Data: Tables d020 and d120

Matching Records Across Data Sources. As there was no unique consumer identifier common to all the data sources, the construction of the RSN-generated dataset began with a record matching process, the goal of which was to associate an RSN identification number—i.e., a consumer identifier called the RSNID that is unique across the entire RSN—with each consumer for whom an inpatient stay record existed in the Paid Claims and ESH admission/discharge data. Insofar as possible, this match was made on the basis of Social Security Numbers. For records that didn't have an SSN, or had one that couldn't be matched across databases, a second unique identifier, consisting of the first four letters of a consumer's last name coupled with his/her date of birth, was constructed. Prior to using this identifier for matching purposes, the Quality Manager confirmed that each such combination was truly unique to a given individual. After using this constructed identifier to match consumers in the Paid Claims and ESH data with those in the RSN's encounter data, the data were checked manually to ensure that the matches were accurate, based on full name and birth date. Consumers whose records in the Claims Paid and ESH data remained unmatched after these two processes were searched for manually in the RSN's consumer identifier table (d020), which includes an RSNID for every individual who has received outpatient services since January of 2002. Consumers for whom no RSNID could be found via these processes were identified by the entry "None" in the RSNID field of the constructed dataset.

Determining Medicaid Eligibility. Although the Paid Claims database included a field (FUNDING) apparently identifying each individual's Medicaid eligibility at discharge, a comparison of these designations with those included in the MHD-generated dataset for the same inpatient episodes yielded many records where the designations didn't match. Further analysis of the Program, Match, and Medical fields in the MHD, Claims Paid, and Eligibility datasets yielded patterns relative to the combinations of the designators in these three fields, most of which pertained exclusively to one status or another—i.e., a code indicated either Medicaid eligibility or the lack thereof. Based on this finding, a table of the code combinations (see Appendix C) was constructed for the purpose of defining eligibility for records in the RSN-constructed dataset that could not be matched directly with records in the downloaded Eligibility data. In the few instances where a code combination found in the Paid Claims data was associated with both eligibility and non-eligibility, the status assigned to that combination, for purposes of this study, was the designation assigned to it MHD-generated dataset, where each combination had an exclusive meaning. Code combinations found in the Paid Claims data but not noted in the MHD dataset were designated as pertaining to Medicaid eligibility if found in the downloaded eligibility data, which included only eligible individuals. Code combinations in the Paid Claims data that could not be found in either the MHD dataset or the downloaded eligibility data were designated as pertaining to non-eligibility.

An individual's eligibility in the month of discharge was determined by a two-step process that first joined the downloaded Claims Paid and Eligibility data based on a constructed field in each of these databases. For Claims Paid data, this field consisted of the year and month of discharge coupled with the OriginalRecipID field (i.e., the consumer's PIC); in the Eligibility data, this constructed field was the year and month of eligibility (i.e., the MOS field) coupled with the PIC field. Because, as stated earlier, the Eligibility data included a separate entry for each month of eligibility, and included only Medicaid-eligible individuals, a consumer was designated as Medicaid-eligible during the month of discharge from inpatient care only when an entry could be found for that month in the Eligibility data. All inpatient episodes occurring during the 18-month timeframe covered by the accessible Eligibility data, but for which no such match could be made, were designated as non-eligible. Records falling outside of that 18-month period were assigned an eligibility status on the basis of the Program-Match-Medical code combinations associated with the inpatient episode in the Claims Paid data, using the table in

Appendix C. It was noted that the congruence between the Funding field in the Claims Paid data and the eligibility status assigned on the basis of the status shown in the Eligibility data was only 77% for the 562 records that fell within the 18-month period covered by the downloaded Eligibility data.

Identifying Community Hospital Discharges Followed By State Hospital Admission. As noted earlier, a problem identified with the MHD-constructed dataset was the inclusion of records which should have been excluded based on the data parameters—i.e., discharges followed, on the same or next calendar day, by an admission to a state hospital. Such records in the Claims Paid data were identified by combining Claims Paid and ESH records into one dataset, sorting them by consumer and admission date (in that order), and using a multi-argument =IF formula to identify, on the basis of admission dates, whether a record for a given consumer pertained to a transfer or a new episode, relative to the record immediately preceding it. When this process identified a community hospital discharge followed, on the same or next calendar day, by an ESH admission, both records were eliminated from the dataset. When the process identified a community hospital discharge followed, on the same or next calendar day, by admission to another community hospital, a new record was constructed by replacing the discharge date in the first of the contiguous records with the discharge date in the last. After testing and adjusting the Claims Paid data in this manner, the remaining ESH admissions were deleted from the dataset.

Identifying Routine Outpatient Services Occurring Subsequent to Discharge From An Inpatient Setting. As was true for the MHD-constructed dataset, the source of data concerning outpatient services was the RSN's encounter data, also known as the 837P data. Using the RSNID field that had been associated with the consumer records in the Paid Claims data, as described above, the encounter database was queried for outpatient service encounters occurring within 120 days of the discharge date, eliminating those associated with CPT/HCPC codes on the Exclusion List (see Table 5 in Appendix B) developed by the statewide PIP team.

Summary. As with the MHD-constructed dataset, except for the designation of Medicaid eligibility, the information concerning inpatient episodes of care came from hospital billing (Claims Paid) data, and as such, was considered accurate, valid, and reliable. Again, because the source was billing data, all hospitalizations were assumed authorized, though that could not be confirmed for all records due to incomplete RSN data; this assumption was consistent with that

made for the MHD-generated data. The following data rules, also consistent with those developed by the statewide PIP team, applied in constructing both the baseline and intervention period datasets:

1. Consumers discharged and readmitted to ESH within 24 hours (the same or next calendar day) were considered "transfers" and were not included for the purposes of this study. Also considered transfers were consumers discharged from one community hospital and readmitted to another within 24 hours. For these episodes, a new record was created that linked the admission date of the first hospitalization with the discharge date of the last, to create a record for a contiguous episode of inpatient care.
2. A consumer was considered Medicaid-eligible relative to a given episode of inpatient care if the consumer was noted as Medicaid-eligible in the month that the discharge occurred, for months covered by the downloaded Eligibility data. For the eight months of the Baseline period for which a monthly eligibility status was not available, due to the 18-month limitation on the Eligibility data that could be downloaded, Medicaid eligibility was determined on the basis of the combination of data in the Program, Match, and Medical fields, where every combination had an exclusive meaning relative to eligibility.
3. A consumer was considered ineligible for Medicaid relative to a given episode of inpatient care if, for the 18 months covered by the Eligibility data, there was no record specific to the month of discharge for that consumer. For the months of Baseline data that fell before the 18-month window of Eligibility data, a consumer was considered ineligible if the Program-Match-Medical field data combination matched a combination associated with ineligibility, as shown in Appendix C.
4. Medicare/Medicaid crossovers were included.
5. Routine community outpatient services included all outpatient services submitted on the 837P transaction except those associated with an excluded CPT/HCPC code, as listed in Table 5 of Appendix B.
6. Adults are defined as 18 years or older at the time of their discharge from the IP setting. Although the Paid Claims data included a field denoting each consumer's age, when those data were compared with ages calculated by subtracting the date of birth from the date of discharge, it was noted that for a considerable number of records, the age reported

in the Paid Claims data was one year less than the calculated age. Accordingly, the calculated age was used to identify Medicaid adults.

7. Community Hospital data was taken from the MMIS Paid Claims File. Because the RSN has no Evaluation and Treatment centers, and because no inpatient episodes at E & T Centers outside the RSN had been included in the MHD-generated datasets covering 7/1/06 through 9/30/08, no attempt was made to include 8371 transactions (i.e., the source of E & T data) in the RSN-constructed dataset. Community Outpatient Services data were drawn from Table d120 in the RSN's database, from which is generated the 837P transactions submitted by the RSNs to the MHD.

5.2 Data Collection & Validation

Data Collection. As noted earlier in this report, the Baseline and Intervention Periods for this PIP were as follows:

Baseline Data Collection Period – June 1, 2007 through May 31, 2008

Intervention/Follow-up Data Collection Period – June 1, 2008 through December 31, 2008

Consistent with the data collection rules established by the statewide PIP team, data were not downloaded from the Claims Paid until at least 180 days after the end of most recent month in a data collection period, based on the understanding that a six month lag was necessary to capture a meaningful number of billing claims. The last download encompassed the entire 19 months for which data were needed for this study, and this download was used to establish all performance scores reported for this study.

Data pertaining to inpatient episodes of care and post-discharge, routine outpatient services were all collected electronically, by accessing the data sources described above. Data pertaining to the Intervention itself were generated manually via a process involving Behavioral Healthcare Options, Inc., (BHO) the RSN's contracted service authorization agency, and the two Care Coordinators located at the GCBH Central Office. Given the short lengths of stay for episodes of inpatient care in community hospitals—e.g., the average length of stay during the Baseline Period was 8 days—the period for follow-up data collection, for the purpose of testing the effectiveness of the intervention, began immediately following the end of the Baseline period and occurred concurrent with the implementation of the intervention, which was ongoing throughout that 7-month period. Unlike the Baseline period, for which the inclusion of records was based on the date of *discharge*, because an admission was the impetus for each instance of

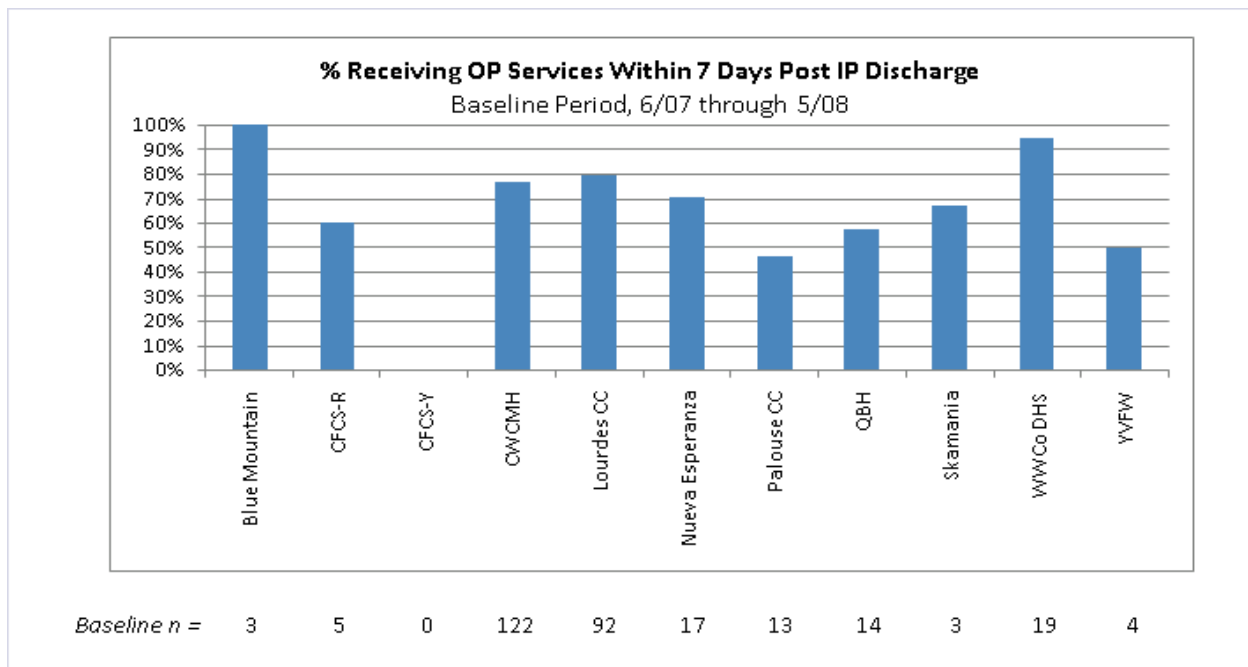
Care Coordinator intervention, inclusion of a record in the Intervention/Follow-up period required an admission date of 6/1/08 or later, and a discharge date not later than 12/31/08. The process for collecting data specific to the intervention made by the Care Coordinators was integral to the intervention itself. Thus, both their role, and BHO's, relative to data collection are described in the Intervention Strategy section below, as is the validation process for that data.

Data Validation. Given the nature of the Claims Paid and Eligibility data downloaded from the MHD Intranet, the RSN had no more reliable source of information with which to carry out a validation process. An attempt was made to test Claims Paid data against authorization data generated by the RSN's contracted review and authorization agency, but two issues quickly became apparent that led to the conclusion that the authorization data would not be a reliable resource for validation purposes: (1) In many instances, the admission or discharge date noted in the authorization data for a given episode of inpatient care was not the same as the date shown in the FirstDateOfServ or LastDateOfServ fields in the Claims Paid data. Whether such discrepancies are the result of keying errors made during the entry of authorization data, or pertain to limitations on billing for dates on which a consumer is admitted or discharged is not known; (2) Correlating authorizations could not be found for all records in the Claims Paid data, and it is not known whether this is due to omissions in the authorization database, a failure on the part of the admitting hospital to request authorization, or the inclusion in the Greater Columbia data of a hospitalization that was authorized by another RSN—all three of which scenarios have been known to occur. Ultimately, because the Claims Paid and Eligibility data are generated by the MMIS system and pertain to payment for services, they were assumed accurate.

The RSN encounter data is generated by its providers, and is subjected to annual validation processes by both the RSN and the State's contracted EQRO. The report published by Acumentra subsequent to a primary data validation process conducted in the Fall of 2008 stated, "Acumentra Health analysts audited 433 encounter records for GCBH, more than enough to facilitate statistical inference about the accuracy and completeness of encounter data....Of the 433 encounters reviewed from the state's outpatient data set, 407 (94.0 percent) had procedure codes that matched the chart documentation." A similar process conducted by GCBH reviewers between 10/1/08 and 6/30/09, which encompassed 2610 encounters, resulted in a score of 98% congruence between the CPT code in the database and the documentation in the clinical record, and a 97% match between the dates in the encounter database and on the chart notes.

6. Intervention Strategy

When this PIP was first conceived, it was anticipated that the study would be designed around multiple, customized interventions developed and implemented by Provider agencies. This plan was based on the assumption that Pareto analysis would allow the RSN to identify specific Providers whose performance scores during the Baseline period indicated where the



opportunity lay to achieve the most significant gains. However, subsequent analysis of performance data during the Baseline period indicated that the largest of the RSN's providers were doing considerably better than the RSN's overall score would imply, at least insofar as concerned the 292 inpatient episodes that could be associated with a particular Provider (by virtue of the discharged consumer having received a routine outpatient service within 120 days of discharge). As shown by the chart below, for these 292 consumers, the performance scores achieved by half of the RSN's Providers, including both Providers whose consumers accounted for more than half of the total Baseline sample, were already at or above 70%. This finding brought into question the assumption that provider-specific interventions could result in sufficient change to significantly impact the RSN's overall performance score.

However, in addition to the 292 discharges who could be associated with a Provider, the Baseline sample also included 106 discharges that could not, either because the consumer had received no routine outpatient services subsequent to discharge, or because the consumer had no RSN identification number, indicating that s/he had never received outpatient services from an

RSN Provider. This finding suggested that an RSN-wide intervention might prove more effective toward increasing the number of consumers who received non-crisis outpatient services within 7 days of discharge. Accordingly, an intervention addressing a concern identified by the RSN during discussion with BHO—i.e., the significant number of consumers for whom BHO could not identify a provider of outpatient services, based on information available at the time a request for authorization of inpatient services was received—was developed.

This intervention, the goal of which was to improve communication with the RSN's outpatient Providers regarding the hospitalization of consumers for whom an outpatient provider could not be identified by BHO, based on the belief that doing so would increase the likelihood of more timely engagement with the consumer after discharge, involved the GCBH Care Coordinators. Their role was to identify a likely provider on the basis of the consumer's county of residence, then notify a designated individual in that county that the admission had occurred. In counties with only one Provider, this individual was a staff person at the Provider agency. In Yakima, where there are multiple Provider agencies, an individual at the largest Provider, CWCMH, was designated to receive this information and follow up with the consumer to begin establishing a relationship with its own treatment team or to facilitate a referral to one of the other Providers, should the consumer request that. In Benton-Franklin Counties, the other area with multiple Providers, the information was passed from the Care Coordinators to the Mental Health Specialist at the Benton-Franklin Counties Human Services office, which holds the contracts with the outpatient Providers in those counties, so she could facilitate the process of connecting the hospitalized consumer with a Provider. The Care Coordinators received their information from BHO, which faxed the authorization forms for consumers it deemed "unassigned" (i.e., not associated with a particular provider of outpatient services) to the Care Coordinators at the GCBH Central Office, typically on the next business day following the authorization. Based on data available to them via the MHD Intranet, the Care Coordinators determined whether there was evidence of a consumer having received recent (i.e., within the past two to three months) outpatient services from a particular Provider. Individuals for whom no such connection could be found were designated "unassigned", and concerning these individuals, the Care Coordinators faxed notification of hospitalization to entities within the provider network, as described above. The Care Coordinators kept a log documenting which consumers they had designated as unassigned, and retained both the authorization documents

received from BHO and copies of the faxes by which they made their notification. Prior to noting a given inpatient episode in the dataset as having been subjected to the intervention, the Quality Manager validated the logged data by comparing it with the faxed notifications. Between 6/1/08 and 12/31/08, the Care Coordinators communicated to entities within the provider network concerning 64 authorized admissions for adults designated in the BHO data as Medicaid-eligible, only 42 (65%) of which had appeared in the Paid Claims data for that period. The reason for this low capture rate within the Paid Claims data is not known; it may reflect changes in Medicaid status between admission and discharge, and/or billing/processing periods not completed by the point at which the data for this phase of the PIP were downloaded.

7. Data Analysis

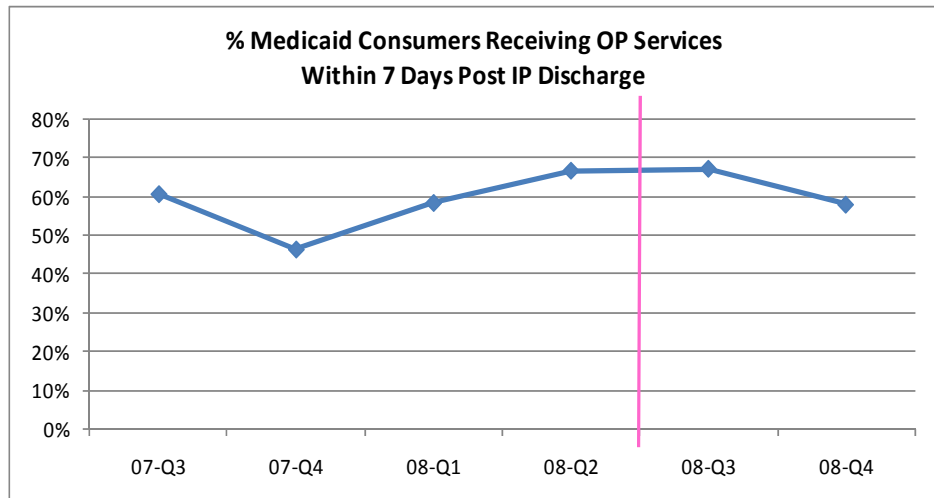
As described earlier, the outcome indicator was calculated for the entire sample for each period of the study, as well as for each of the two groups to which consumers were assigned as part of the Intervention process. The table to the right shows the performance scores for the overall and stratified samples.

Although the shift in the overall performance score, from 58% during the Baseline period to 62% during the Intervention/Follow-up period, suggests that the intervention was effective, further examination of the data belies that conclusion. As evidenced by the table, the performance score for the 42 consumers on whose behalf the Care Coordinators intervened is actually lower than the score for the 156 admissions for which no intervention occurred. This finding points to a conclusion that something other than the Care Coordinators' intervention must be responsible for the increase in the overall score.

Comparison of Performance In Two Periods		
Medicaid Consumers		
Baseline Period: 6/1/07 - 5/30/08		
OP Service Within 7 Days?		<i>n</i>
No	42%	167
Yes	58%	<u>231</u>
		398

Intervention Period, To Date: 6/1/08 - 12/31/08		
Overall Performance		
OP Service Within 7 Days?		
No	38%	76
Yes	62%	<u>122</u>
		198
Comparison of the Two Groups		
Had Care Coordinator Intervention		
OP Service Within 7 Days?		
No	40%	17
Yes	60%	<u>25</u>
		42
Had No Care Coordinator Intervention		
OP Service Within 7 Days?		
No	38%	59
Yes	62%	<u>97</u>
		156

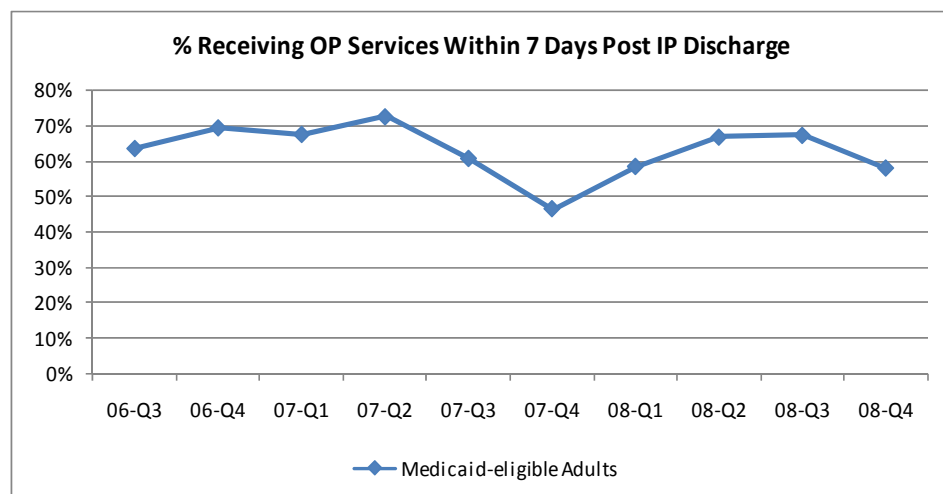
The graph below shows the performance score for each quarter throughout the entire period for which data were collected for this study—6/1/07 through 12/31/08.



The vertical line intersecting the quarterly data points represents the beginning of the Intervention, which occurred in the last month of the second quarter of 2008. This graph provides evidence that an upward trend began months before the intervention for this PIP was implemented in June of 2008. The leveling of the performance score during the third quarter of 2008, followed by its downward turn during the fourth while the intervention was still ongoing, provide further evidence that the higher overall score calculated for the 6-month Intervention period cannot be attributed to the efforts of the Care Coordinators to improve communication among the RSN’s providers concerning admissions to inpatient care. Due to the 180-day time lag in the availability of Claims Paid data, this pattern was not evident at the point in time at which the intervention was implemented.

Had the intervention appeared to be associated with an improvement in the performance score, the change would have been tested for statistical significance using a chi-square test.

However, given the outcomes, use of such a test was deemed unnecessary to assessing the success of the intervention.



8. Conclusion

No clearly relevant cause of the upturn in the performance scores, late in 2007, has been identified, though it has been noted that the RSN's providers began, around that time, to consider strategies for compliance with a contractual requirement that contact with an inpatient facility occur within three working days of a consumer's admission for inpatient services. A review of data back to July of 2006, the point originally planned as the beginning of the baseline measurement period for the statewide study, demonstrates that performance against this quality indicator has waxed and waned. As shown in the chart above, performance scores climbed between July of 2006 and June of 2007, then fell during the next two quarters, just as they again appear to be doing.

The conclusion of this project is that communication from the Care Coordinators to network providers concerning "unassigned" individuals, for the purpose of notifying providers that an individual from their service area had been admitted to inpatient services, did not result in shorter lengths of time between discharge from inpatient services and the receipt of routine outpatient care. In retrospect, a probable weakness of the intervention was that it didn't include a feedback loop—i.e., there was no point at which the Care Coordinators followed up to ensure that the information they had communicated had resulted in contact with the hospitalized consumer. However, building that step into the intervention would have resulted in making the intervention, which proved more costly than anticipated in terms of the time investment required of the Care Coordinators, even more so. Although this study focused only on the intervention's results for adults who were Medicaid-eligible at the time of discharge, focusing the intervention itself exclusively on that population was not feasible. The intervention was designed to be responsive to all unassigned consumers, exclusive of age or Medicaid eligibility, and in the seven months during which the intervention was tracked for purposes of this study, the Care Coordinators intervened on behalf of 203 consumers. Had the intervention proven successful, it might still have been evaluated unsustainable from a cost/benefit perspective.

Although its performance against this indicator remains of concern to the RSN, and efforts to identify strategies that result in more consumers receiving timely services following discharge from an inpatient episode of care will continue, the intervention tested by this project will be discontinued; no further measurement in regards to it is warranted.

10. References

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Appendix A. 2006-2007 State-wide RSN/PIHP Performance Indicator

Discharges in FY2006 (July 1, 2006 – June 30, 2007) and Follow-up in Community Outpatient Services within 7 Days			
RSN	Medicaid Eligible (n=5918)		
	# of episodes with 7 day follow up	Total # of episodes	% of T19
<i>Chelan Douglas</i>	18	46	39%
<i>Clark</i>	104	239	44%
<i>Cowlitz (Southwest)</i>	77	125	62%
<i>Greater Columbia</i>	239	387	62%
<i>Grays Harbor</i>	13	36	36%
<i>King</i>	841	1623	52%
<i>Mental Health</i>	196	431	45%
<i>North Central</i>	42	90	47%
<i>Northeastern</i>	2	4	50%
<i>North Sound</i>	595	1018	58%
<i>Peninsula</i>	87	346	25%
<i>Pierce</i>	288	627	46%
<i>Spokane</i>	274	528	52%
<i>Timberlands</i>	34	64	53%
<i>Thurston Mason</i>	189	354	53%
STATEWIDE	2999	5918	51%

Data Notes:

- (1) An episode is considered Medicaid eligible if the client was Medicaid eligible in the month that the discharge occurred.
- (2) An episode is considered non-Medicaid eligible if the client was not Medicaid eligible in the month that that discharge occurred.
- (3) Community Outpatient Services include all outpatient services submitted on the 837P transaction except: CPT/HCPC codes; H2011, H0030, 99281, 99282, 99283, 99284, 99285, H0046, 90846, H0024, H2013, 99075, 90889, H0001, H0002, T1013, S9484, 96101, 96102, 96103, 96105, 96110, 96111, 96116, 96118, 96119, 96120, S9125, H0045, T1005, T1023, H0023.
- (4) Adults are defined as 18 years or older at the time of their discharge from the IP setting.
- (5) Medicare/Medicaid crossovers are included.
- (6) Episodes with a discharge data and an admission date within 24 hours are considered one episode (not 2 distinct episodes).
- (7) NE RSN stopped reporting services on 8/31/2006 which is still within the FY2007 time period. For reporting purposes, NE and NC RSN are separated, but for analysis they may be combined.
- (8) Community Hospital data is taken from the MMIS Paid Claims File. Evaluation and Treatment Center data is taken from the 8371 transaction sent to the MHD by the RSNs. Community Outpatient Services data is taken from the 837P transaction that is submitted by the RSNs to the MHD.
- (9) Generated by Katie Weaver-Randall, January 2008.

Appendix B. Database Details

This Appendix provides detailed information regarding the various data sources used for this Performance Improvement Project.

Table 1: Paid Claims Data Fields (fields used to construct the PIP dataset are bolded)

EDBRecCd	RecipDOB	ITAInd (legal status, i.e.,
RecCd	RecipAge	voluntary or involuntary)
ProcGrpCd	Gender	DrugTheraClass
TransControlNum	Race	DrugForm
ClaimStatus	RecipZipCode	PrescriptionNumber
ClaimInputFormInd	TotalClaimCharge	DrugQuantity
DRGCode	TotalThirdPartyPmtAmt	DaysSupplied
PatientStatus	TotalComputedRecipPmt	RefillInd
AdmitSource	DispShare	PCOType
ProcCode1	ReimbAmt	BabyWeightGrams
ProcCode2	TotalAllowed	SSN
ProcCode3	LineItem	RecipName
ProcCode4	UnitsOfService	Ethnic
ProcCode5	EOBCode1	CSOR (at time of discharge
ProcCode6	EOBCode2	based on Medicaid
PlanProvNumber	CPT4ProcCode	information)
PerfPrescAttProv	Diag01	RSN
ProvNumber	Diag02	PriorAuth
(hospital/facility number)	Diag03	HispOrigin
ProvType	Diag04	Source
CatOfServ	Diag05	Funding (eligibility status,
ProvSpec	Diag06	noted as T-19 or
AlienInd	Diag07	State_Plan)
AdmissionDate	Diag08	OrigReimbAmt
ProvCounty	Diag09	
ProvZip	FirstDateOfServ (admit)	
DatePaid	LastDateOfServ (discharge)	
OriginalRecipID (PIC)	LIAllowedCharge	
MARSClaimInd	LISubmittedCharge	
EDBInd	LIThirdPartyPmtAmt	
FedMaintAsst	LIComputedRecipPmt	
FedAidCat	LIReimburseAmount	
PdUnitSvc	AmtPaidByMedicare	
Region	EPSDTReferInd	
BudAid	EPSDTRefReason	
Match (a code which, in	CopesCapsInd	
combination with the	RevenueCode	
next two, “Program” and	DrugCode	
“Medical” indicates	ProcCodeModifier	
Medicaid eligibility)	TypeOfServ	
Program	PlaceOfServ	
Medical	EligClass	
RecipCounty		

Table 2: ESH Database Data Fields (fields used to construct the PIP dataset are bolded)

Source	CoMorbidity One
Reporting Unit ID	CoMorbidity Two
CMR	CoMorbidity Three
AdmitDate	CoMorbidity Four
Admit Time	CoMorbidity Five
Patient Name	CoMorbidity Six
Social Security Number	CoMorbidity Seven
Date of Birth	CoMorbidity Eight
Gender	Discharge Date
Admit Diagnosis, Main	Discharge Time
Admit Diagnosis, Supplemental	Discharge Diagnosis, Main
Principal Psychiatric Diagnosis	Discharge Diagnosis, Supplemental
Supplemental Principal Diagnosis	

Table 3: Medicaid Eligibility Database Data Fields (fields used to construct the PIP dataset are bolded)

MOS	Match
PIC	Medical
AltPIC	Age
CSO	RSNID
County	Title_XIX
Program	Category

Eligibility data are available only for the 18 months prior to the date of download. The database includes a record for each consumer, for each month of eligibility—i.e., the data enable determination of eligibility during a specific month.

Table 4: Data Fields Used from RSN Consumer and Encounter Data TablesTable d020 – Consumer Identifiers

Ruid - Provider agency designator	fname - First Name
cid - Consumer ID, unique to agency	mname - Middle Name
rsnid - Consumer ID, unique across all Provider agencies	gender - Gender
lname - Last Name	dob - Date of Birth

Table d120 – Service Encounters

Ruid - Provider agency designator
cid - Consumer ID, unique to agency
cpt - CPT or HCPC code under which encounter was reported (see table below for excluded codes)
svc_date - the date the encounter occurred

Table 5: Excluded CPT/HCPC Codes

CPT	CPT name
90846	Family therapy w/o patient
90889	Individual tx - report prep
96101	Psych Assessment - testing
96102	Psych Assessment - testing
96103	Psych Assessment - testing
96105	Psych Assessment - testing d/c 12/31/06
96110	Psych Assessment - testing
96111	Psych Assessment - testing
96116	Psych Assessment - testing
96118	Psych Assessment - testing
96119	Psych Assessment - testing
96120	Psych Assessment - testing
99075	Hearing for Invol Treatment
99217	rehab case management
99218	rehab case management
99219	rehab case management
99220	rehab case management
99221	rehab case management
99222	rehab case management
99223	rehab case management
99231	rehab case management
99232	rehab case management
99233	rehab case management
99234	rehab case management
99235	rehab case management
99236	rehab case management
99238	rehab case management
99239	rehab case management
99251	rehab case management
99252	rehab case management
99253	rehab case management
99254	rehab case management
99255	rehab case management
99281	Crisis services - d/c 12/31/06
99282	Crisis services - d/c 12/31/06
99283	Crisis services - d/c 12/31/06
99284	Crisis services - d/c 12/31/06
99285	Crisis services - d/c 12/31/06
99361	Ind tx - physician phone

CPT	CPT name
99362	Ind tx - physician phone
99371	Ind tx - physician phone
99372	Ind tx - physician phone
99373	Ind tx - physician phone
H0001	Integrated CD/MH assessment (GAIN-SS)
H0002	Integrated CD/MH screening (GAIN-SS)
H0018	per diem residential
H0019	per diem residential
H0023	rehab case management
H0024	community psychoeducation
H0030	crisis hotline
H0041	foster care per diem
H0045	respite care
H0046	request for service
H2011	crisis intervention
H2013	E+T
H2020	per diem behavioral services
S9125	respite care
S9484	Involuntary tx - investigations
S9485	stabilization
T1005	respite care
T1013	interpreter services
T1023	special population evaluation

Appendix C. Eligibility Codes

PGM	Associated	HM0	T19	PN2	T19
Combo*	Status	HN0	T19	PN7	T19
A10	T19	HQ0	T19	PS0	T19
AA0	T19	HS0	T19	PU0	T19
AA1	T19	HU0	T19	PU1	T19
AC0	T19	JS0	T19	QU0	Non-T19
AC7	T19	MG0	Non-T19	QU1	Non-T19
AD1	Non-T19	P10	T19	QU5	Non-T19
AJ7	T19	PA0	T19	QU7	Non-T19
AJ8	T19	PA1	T19	QUO	Non-T19
AN0	T19	PA5	T19	SC0	T19
AN1	T19	PA7	T19	SC2	T19
AN7	T19	PA8	T19	SCT	T19
AN8	T19	PB0	T19		Non-T19
AU0	T19	PB1	T19	ST0	T19
C10	T19	PB7	T19	ST2	T19
C20	T19	PC0	T19	TJ7	T19
CC0	T19	PC1	T19	UU0	Non-T19
CC2	T19	PC2	T19	UU1	Non-T19
CC3	T19	PC7	T19	WR0	Non-T19
CS0	T19	PD1	Non-T19	WU0	Non-T19
CS1	Non-T19	PJ7	T19	XU0	T19
DM0	T19	PN0	T19	XU1	T19
GTP	Non-T19	PN1	T19		
HC0	T19				

*PGM = Program, Match, Medical—i.e., three fields available in each the Paid Claims, Eligibility and MHD datasets, enabling identification of combinations associated with eligibility, or lack thereof.

2008
Greater Columbia Behavioral Health
Regional Support Network / Prepaid Inpatient Health Plan

Clinical Performance Improvement Project

The Impact of Implementing the PACT Model
On the Use of Inpatient Treatment

***** DRAFT *****
July, 2009

1. Introduction

1.1 Background

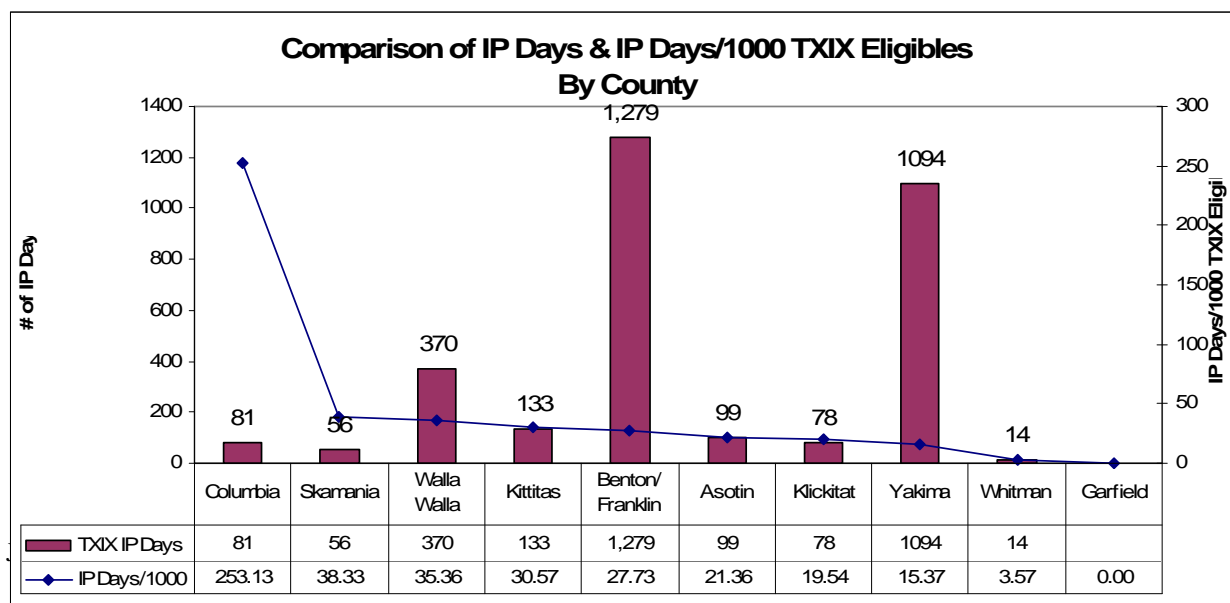
In April of 2003, President Bush created the New Freedom Commission on Mental Health and charged it to study the nation's systems for delivering mental health services and to "make recommendations that would enable adults with serious mental illnesses and children with serious emotional disturbance to live, work, learn, and participate fully in their communities."¹ The next year, the Commission released its final report, in which it concluded the following:

More individuals could recover from even the most serious mental illnesses if they had access in their communities to treatment and supports that are tailored to their needs. . . . Problems derive principally from the manner in which the Nation's community-based mental health system has evolved over the past four to five decades. In short, the Nation must replace unnecessary institutional care with efficient, effective community services that people can count on. It needs to integrate programs that are fragmented across levels of government and among many agencies.

Like the Commission members, Greater Columbia Behavioral Health (GCBH) believes that recovery is most effectively supported via consumer-driven care delivered close to home. While acknowledging inpatient treatment as a necessary component of the continuum of care, the RSN has, in recent years, focused on decreasing its reliance on such care, seeing this goal as consistent with its commitment to the delivery of recovery-oriented care.

1.2 Study Topic

In 2007, several events converged to heighten the RSN's interest in understanding its use of inpatient services and to provide it the means to study them further. First among these was the State Legislature's announcement of its intent to reduce the inpatient beds at its state hospitals, a



move which will ultimately result in 30 fewer beds available to this RSN. A second event, the provision of data by the Mental Health Division (MHD) for a statewide, non-clinical Performance Improvement Project (PIP), made available data elements necessary to developing a better understanding of this issue. A first level analysis of those data yielded findings consistent with the RSN's prior observations as to patterns of use among its providers. Of particular interest were the findings that Benton-Franklin Counties, with approximately 41K Medicaid-eligible individuals, generated more inpatient days than Yakima county, with a Medicaid-eligible population of more than 71K, and had an "inpatient days per thousand Medicaid-eligible individuals" rate almost twice that of the larger county. This finding was secondary confirmation of the need for a new approach to care in Benton-Franklin Counties, the opportunity for which was introduced by the 2007 award of a SAMHSA grant to the RSN for the purpose of implementing the Program of Assertive Community Treatment (PACT) model of care—an approach to care that is highly congruent with the recommendations of the Commission. A network provider with which the RSN already had a relationship, Lourdes Counseling Center, responded to the RSN's Request for Proposal and was selected as the program site. Planning for implementation of this program began in May of 2007; the program accepted its first clients in October of the same year.

This study was initiated subsequent to a decision by the Quality Management Oversight Committee—a subcommittee of the GCBH Board of Directors—that the RSN's first clinical Performance Improvement Project should focus on its goal of reducing the use of inpatient care. Another intervention implemented in support of that goal was initially selected for study, but was abandoned when it became clear that the intervention had not been implemented with sufficient rigor to support credible outcome measurement. Concurrently, it was recognized that the implementation of the PACT program presented an opportunity for a credible PIP, and the potential for expanding the PACT program model to other areas within the RSN, should it prove effective, provided the final impetus for adopting the current study.

2. Study Question

The PIP study question is: *Did Medicaid-enrolled adults continuously participating in the Program of Assertive Community Treatment (PACT) at Lourdes Counseling Center experience improved outcomes of care during their enrollment in this program, as evidenced by a statistically significant reduction in the total number of psychiatric inpatient days during the first*

12 months following their admission to the PACT program as compared to the total number of psychiatric inpatient days occurring during the 12 months immediately prior to their admission?

This question is of particular interest to the RSN both because of its commitment to improving clinical outcomes and because it anticipates an opportunity to expand the use of the PACT model. Should the findings of this study be consistent with those in the literature, consideration will be given to the question of whether the impact was sufficient to warrant such expansion.

3. Outcome Indicator

The outcome indicator for this PIP is **the total number of psychiatric inpatient days occurring in each of two 12-month measurement periods, occurring pre- and post-PACT admission, for the same Medicaid-eligible adult.** “Psychiatric inpatient days” includes days occurring in state hospitals, evaluation and treatment centers, and community hospitals. The number of inpatient days is derived by subtracting the date of admission to a given facility from the date of discharge from that facility. Accordingly, episodes of inpatient care involving a transfer from one facility to another within a given 24-hour period are recorded as separate hospitalizations, as is a readmission occurring within 24 hours of a discharge, whether to the same or a different facility. Each measurement period is based on twelve contiguous months, with the first measurement period ending on the date of the individual’s admission to the PACT program, and the second measurement beginning on that date. A “Medicaid-eligible adult” is an individual aged 18 or older, who was eligible to receive Medicaid-funded outpatient mental health services as of the date of admission to the PACT program. The statistical significance of any difference between the total psychiatric inpatient days incurred by a given individual during each of the 12-month measurement periods will be ascertained via a statistic designed to evaluate changes between raw, paired, pre- and post-intervention scores for the same subjects. Only PACT participants who have completed at least 12 months of contiguous enrollment prior to the end of the data collection period for this PIP are eligible for inclusion in the study. All PACT participants meeting the above criteria are included in the calculation of the outcome indicator for each measurement period, though they may not have incurred inpatient days in either or both of the measurement periods.

Repeatedly, studies have noted a reduction in the use of inpatient hospitalization associated with the implementation of the PACT model. In 1999, Salkever, et al, published a study

designed to assess the impact of the PACT model on hospital use and costs.² The study involved 91 PACT-enrolled individuals and a control group of 53 individuals receiving care via an office-based case management model at a local mental health center. The two groups, which were found to be demographically and clinically similar, were compared relative to a variety of indices, including number of admissions, number of hospital days, and Average Length of Stay. Both the baseline and follow-up periods were 18 months in length. While the impact of PACT on the average length of stay was relatively small, this study found a substantial decline in both the number of inpatient days and the number of inpatient stays for both study groups, with the relative size of this decline being considerably greater for the PACT participants than for individuals in the control group. The study attributed this difference to a reduction of more than 40 percent in the risk for hospitalization among the PACT-enrolled individuals. The finding that the PACT model reduces hospitalization is consistent across studies, according to an article by Phillips et al (2001), which states, “Reviews of the research consistently conclude that compared with other treatments under controlled conditions...assertive community treatment results in a greater reduction in psychiatric hospitalization.” The contribution of the Salkever, et al, study as compared to other studies reviewed was the association of the reduction of hospital days with a PACT participant’s decreased *risk* for hospitalization, which would seem to link this indicator more closely to clinical outcomes. Based on the literature, this indicator is deemed an appropriate proxy measure for assessing the clinical impact of this care delivery model.

4. Study Population

While the opportunity for improvement relative to the study indicator was made evident by inpatient hospitalization rates based on data including all Medicaid-enrolled adults admitted to community hospitals and Evaluation and Treatment Centers, and encompassing all counties within the RSN, this study will focus on a sub-population of the RSN’s Medicaid enrollees, i.e., those participating in the PACT model of treatment in Benton and Franklin Counties, at Lourdes. Should this PIP yield findings similar to those of published studies, an effort will be made to infer the viability of the PACT model for expanded use within the RSN.

² Salkever D, Domino ME, Burns BJ, Santos AB, Deci PA, Dias J, Wagner HR, Faldowski RA, and Paolone J. 1999. Assertive community treatment for people with severe mental illness: the effect on hospital use and costs. *HSR: Health Services Research* 34(2):577-601.

All individuals 18 years of age or older and enrolled in Medicaid as of their admission to the Lourdes PACT are eligible for inclusion in the study, provided they meet the criteria defined in the previous section. The two 12-month measurement periods, pre- and post-PACT admission, were selected based on the findings of a Canadian study³ indicating that PACT participants were most likely to be admitted for inpatient care in the nine months after entering an assertive community treatment program. When this study began, it was feared that funding for the program would terminate at the expiration of the SAMSHA grant supporting it, in June of 2009, making it possible to include only individuals who had entered the PACT program during its first nine months of operation. To date, however, the program remains funded and data collection is planned to continue through December of 2009 or until a lack of funding forces program closure, whichever comes first. As of this update, 40 consumers (34 of whom incurred inpatient days in one or both measurement periods) have become eligible for inclusion in the study; 22 more consumers will become eligible, provided they are not discharged from the PACT program prior to having completed 12 months contiguous months of enrollment.

The PACT program is designed to serve individuals with severe and persistent mental illness, and individuals known by the RSN to have required higher levels of hospitalization in the past are given priority for admission to the program. Additionally, the program was implemented with the provision that the PACT team would be consulted prior to the hospitalization of any individual by the Benton and Franklin Crisis Response Unit, which was a primary source of the referrals to inpatient care prior to PACT implementation. Broadly stated, the admission criteria for the program are as follows:

- Severe and persistent mental illness
- Significant difficulty with tasks needed to live independently in the community
- Continuous high service needs

A detailed description of both the admission and discharge criteria, as defined by the Washington State program standards for PACT models is included in Appendix A.

³ Joannette JA, Lawson JS, Eastabrook SJ, and Krupa T. 2005. Community tenure of people with serious mental illness in assertive community treatment in Canada. *Psychiatric Services*. 56(11):1387-1393

5. Data Description and Data Collection

As previously stated, the Lourdes PACT team began accepting consumers into the program in October of 2007. Given the requirement that individuals be engaged with the PACT team for at least twelve months to qualify as study participants, data collection began in November of 2008; it will continue through December of 2009. Data elements to be collected for each participant include the following:

(1) Demographic Data Elements

- First Name
- Last Name
- Date of Birth
- Social Security # (if available, to be used for matching data sets)
- Client ID (to be used for matching data sets)
- Gender
- Medicaid Eligibility as of admission into the PACT program

(2) Other Data Elements

- Admission and discharge dates for the PACT program
- Admission and discharge dates for inpatient psychiatric hospitalizations, where either date falls within the study window (i.e., 12 months before or after an individual's admission to PACT)
- Facility at which inpatient admission occurred

Initially, the study design called for data regarding inpatient hospitalizations to be based on information gathered by PACT staff upon and subsequent to program admission. The design further called for community hospital admissions to be validated via "claims paid" data provided by the Mental Health Division for another PIP, and state hospital admissions to be validated via data provided to the GCBH Care Coordinators by Eastern State Hospital. However, during early validation efforts it became clear that data generated by PACT staff, particularly in regards to inpatient hospitalizations occurring prior to PACT admission, was incomplete. Additionally, concerns regarding the integrity of the data provided by the State for the other PIP arose as data validation efforts for that study progressed. Shortly after these concerns were identified, the Quality Manager gained access to three data sources that were unavailable to her when the original study design was defined: (1) "Paid Claims" data provided on the MHD Intranet, which the Quality Manager could access directly; (2) Archived admission and discharge data relating to state hospital stays, also available via the MHD Intranet; and (3) data from the entity with which the RSN contracts for authorizing voluntary inpatient stays at the State and community hospitals.

Both sources of data regarding community hospitalizations are known to be potentially incomplete, and no secondary source of validation has been found for the State hospital data. However, given the number of inpatient episodes recorded in one or more of these data sets yet apparently unknown to the PACT staff, as evidenced during evaluation of the data collected by that staff as of April, 2009, a decision was made to use these new data sources as the basis for determining hospital days prior to and following admission to the PACT program. The data accepted from the PACT staff are now limited to Name, Client ID, Date of Birth, SSN, PACT Admission and PACT discharge, and the following validation rules have been established relative to the various sources of data:

1. The MHD data regarding “Paid Claims”, available via the MHD Intranet, was used to identify community hospital and E & T admissions, and was validated, insofar as possible, via comparison with data from the RSN’s contracted service authorization entity, BHO.
 - 1.1. Though it occurred infrequently, paid claims data that could not be substantiated via BHO data were accepted as noted.
 - 1.2. If the BHO data indicated a longer length of stay than was noted for the paid claim, the BHO data were accepted, based on the knowledge that hospital stays can include Administrative days for which the hospital cannot bill.
 - 1.3. If the BHO data indicated a shorter length of stay than the paid claims data, the paid claims data were accepted, based on the knowledge that community hospitalizations for which authorization was never sought have occurred.
2. When an episode of inpatient hospitalization was noted in BHO data, but no corresponding admission was found in the paid claims data, the BHO data were accepted based on the knowledge that paid claims data is often unavailable for many months after hospitalization occurs.
3. As there was no reliable means by which to validate them, state hospital admission dates were accepted at face value. State hospital discharge dates were evaluated against the RSN’s out-patient service encounter data and if out-patient services, exclusive of Rehabilitation Case Management (HCPC code H0023), were found in the RSN’s data prior to the noted discharge date, the date of the first event of such service was noted as the discharge date for inpatient hospitalization. It should be noted that, assuming that

out-patient services were not resumed the day of discharge from inpatient care, this rule would result in the assumption of more inpatient days than actually occurred.

4. Medicaid eligibility reported by PACT staff was validated by checking for a presence of a PIC number as of the first event of outpatient service appearing in the with RSN's service encounter database and coded with the state-established modifier, UD.

Individuals who could not be confirmed as Medicaid-eligible via this method were not included in the study.

6. Intervention Strategy

Because the PACT model has been well-described in various publications, only a brief description of this approach is provided here. According to the National Alliance on Mental Illness (NAMI), the PACT model is an evidence-based approach which uses a multidisciplinary team to provide intensive services where and when consumers need them—in their homes, at work and in other community settings—around the clock, seven days a week. Its goals are: (1) to lessen or eliminate the debilitating symptoms of mental illness each individual client experiences, (2) to minimize or prevent recurrent acute episodes of the illness, (3) to meet basic needs and enhance quality of life, (4) to improve functioning in adult social and employment roles, (5) to enhance an individual's ability to live independently in his or her own community, and (6) to lessen the family's burden of providing care. While many agencies serving the mentally ill share these goals, a critical difference between the PACT model and the approaches more traditionally employed is that, under the PACT model, the majority of the services employed to achieve these goals are delivered by the PACT team itself, rather than by multiple agencies. The treatment, rehabilitation and support services provided to individuals enrolled in this program are highly individualized; consumers are not required to adapt to or follow prescriptive rules of a treatment program, and the PACT team goes to the consumer whenever and wherever needed.⁴ As described by NAMI, the PACT model is intended for adults with severe and persistent mental illness causing symptoms and impairments that produce distress and major disability in adult functioning, and who have not done well with more traditional

⁴ Information published by the National Alliance on Mental Illness (NAMI), and available at http://www.nami.org/Template.cfm?Section=ACT-TA_Center&template=/ContentManagement/ContentDisplay.cfm&ContentID=49870

approaches. Most commonly, these will be individuals with schizophrenia, other psychotic disorders, bipolar disorder, and those who experience significant disability from other mental illnesses.

The Program implemented at Lourdes has had two fidelity assessments since it began admitting individuals for service. It achieved an overall rating of 4.19 during the review occurring in March of 2008, and a rating of 4.46 during the review in March, 2009, making it one of the most successful PACT's in the State. Tables displaying the summary of fidelity scores for each of these reviews are provided in Appendix B. Fidelity reviews are jointly conducted by the Washington State Mental Health Division and the Washington Institute for Mental Health Research & Training (WIMHRT), using the Washington State Program of Assertive Community Treatment (WA-PACT) Fidelity Scale, which is based on the Dartmouth Assertive Community Treatment Scale (DACTS; Teague, Bond, Drake, 1998) and has undergone further development and been renamed the Tool for Measurement of Assertive Community Treatment (TMACT) since the first fidelity review. Each item is rated on a 5-point behaviorally-anchored scale, ranging from 1 (not implemented) to 5 (fully implemented). The ratings are based on the *current* structure and activities of the team (i.e., not future plans).

7. Data Analysis

Although data collection for this study will continue through December of 2009, a preliminary analysis of the data validated thus far was done for the purposes of this progress report. The findings of this analysis are presented below.

Based on the assumption that this PIP would include more than 30 subjects, its initial design called for the use of the parametric, paired samples t-test for analysis of any change between the pre- and post-PACT admission hospital days for each subject. Alternatively, the Wilcoxon Signed Ranks Test would be used should the use of a nonparametric test prove more appropriate. However, given the data collected to date, it appears that neither test will be acceptable due to skewed distributions in the data that violate their critical assumptions. Specifically, the dependent variable, Inpatient Days Post- PACT Admission, proved severely skewed (Appendix C, Table 1), negating the *t*-test, and there was not symmetry of the differences scores about the median (Appendix C, Table 2), negating the Wilcoxon. Accordingly, the sign test was used for analysis, as the data most closely met its two critical assumptions—i.e., (1) continuous data, and (2) randomly selected data are paired observations from a single sample, constructed either

through matched pairs or through utilizing subjects as their own controls.⁵ It must be noted, however, that the data for this study consist of pre-and post-intervention measures conducted on all PACT participants having completed 12 contiguous months of participation in the program, and are therefore paired observations that are not randomly selected. For the purposes of this PIP, the null and alternative hypotheses are stated, respectively, as follows:

- H₀: The number of psychiatric inpatient days for PACT participants will not change from the 12 months immediately preceding PACT enrollment to the first 12 months of PACT enrollment; that is, the number of PACT participants whose psychiatric inpatient days are reduced from pretest to posttest is the same as the number of PACT participants whose psychiatric inpatient days are increased.
- H_a: The number of psychiatric inpatient days for PACT participants will decrease subsequent to admission into the PACT program; that is the number of PACT participants whose psychiatric inpatient are reduced from pretest to posttest is greater than the number of PACT participants whose psychiatric inpatient days are increased.

SPSS 14 for Windows was used for data analysis. A p value less than or equal to 0.05 is deemed statistically significant, and because the alternative hypothesis is directional, a one-tailed p value was used.

As of this report, the PACT program appears to be having a notably positive effect on the clinical outcomes, as evidenced by a marked decline in the total number of psychiatric inpatient days in the Post-PACT Admission measurement period. Whereas the 40 individuals thus far having become eligible for inclusion in the study, by virtue of having completed 12 contiguous months of participation in the PACT, had a total of 2,799 psychiatric inpatient days for the Pre-PACT Admission measurement period, their total of 826 psychiatric inpatient days for the second measurement period were less than one-third that number. The results of the sign test analysis indicate that these 40 PACT participants reduced their median number of psychiatric inpatient days from pretest ($Md = 34.5$) to posttest ($Md = 00.0$) ($p < .05$), as demonstrated by the following frequency statistics and outputs of the sign test, as generated by SPSS for Windows.

⁵ Pett, Marjorie A. *Nonparametric Statistics for Health Care Research: Statistics for Small Samples and Unusual Distributions*. Sage Publications, 1997, p. 108.

Frequency Statistics

		PrePACTAdmit IPDays	PostPACTAdmi tIPDays	PostMinusPreD iff
N	Valid	40	40	40
	Missing	0	0	0
Mean		69.98	20.65	-51.3250
Median		34.50	.00	-28.5000
Std. Deviation		74.380	46.592	72.70149
Sum		2799	826	-2053.00

Sign Test Frequencies

		N
PostPACTAdmitIPDays - PrePACTAdmitIPDays	Negative Differences(a)	29
	Positive Differences(b)	5
	Ties(c)	6
	Total	40

a PostPACTAdmitIPDays < PrePACTAdmitIPDays

b PostPACTAdmitIPDays > PrePACTAdmitIPDays

c PostPACTAdmitIPDays = PrePACTAdmitIPDays

Sign Test Statistics(a)

		PostPACTAdmi tIPDays - PrePACTAdmit IPDays
Z		-3.944
Asymp. Sig. (2-tailed)		.000

a Sign Test

8. Assess the Likelihood that Reported Improvement is “Real”

The design of the PIP will incorporate the following ways to maximize the likelihood that the reported improvement is “real”:

- A multi-faceted approach to data validation, to assure the most accurate calculations possible of the study indicator.
- Use of the most robust statistical test possible, given the characteristics of the data, to determine whether any difference between the two measurement periods is significant.

- Review of county-wide hospitalization rates, for all RSN counties, making comparisons between the rates calculated prior to this study's data collection period with those calculated from the same data source for each of the study's two measurement periods.
- Discussion with the Lourdes PACT team and the RSN's provider agencies to identify other variables to which they might attribute the possibility of having impacted the study indicator during the measurement periods.

9. Assess the Likelihood that Reported Improvement is Sustained

Should funding for the Lourdes PACT team continue, data routinely collected by the program will be monitored to ascertain any trends relative to the number of inpatient days for its participants in any given calendar year. It is recognized that this measure is not the same as that used by this study, but it is consistent with the nature of the data being collected on an ongoing basis by the program, and will serve for trend identification. Should it be determined feasible to implement the PACT model elsewhere within the RSN, consideration will be given to replicating this study as a means of evaluating clinical outcomes for the population served by PACT.

Appendix A. PACT Admission and Discharge Criteria

Admission Criteria

Individuals must meet the following admission criteria:

1. Severe and persistent mental illness listed in the diagnostic nomenclature (currently the Diagnostic and Statistical Manual, Fourth Edition, or DSM IV, of the American Psychiatric Association) that seriously impair their functioning in community living. Priority is given to people with schizophrenia, other psychotic disorders (e.g., schizoaffective disorder), and bipolar disorder because these illnesses more often cause long-term psychiatric disability. Individuals must have a primary mental health diagnosis. Individuals with a sole diagnosis of a substance use disorder, mental retardation, brain injury or Axis II disorders are not the intended consumer group for PACT services. Individuals who have not been able to remain abstinent from drugs or alcohol will not be excluded from PACT services.
2. Significant functional impairments as demonstrated by at least one of the following conditions:
 - a. Significant difficulty consistently performing the range of practical daily living tasks required for basic adult functioning in the community (e.g., caring for personal business affairs; obtaining medical, legal, and housing services; recognizing and avoiding common dangers or hazards to self and possessions; meeting nutritional needs; maintaining personal hygiene) or persistent or recurrent difficulty performing daily living tasks except with significant support or assistance from others such as friends, family, or relatives.
 - b. Significant difficulty maintaining consistent employment at a self-sustaining level or significant difficulty consistently carrying out the homemaker role (e.g., household meal preparation, washing clothes, budgeting, or child-care tasks and responsibilities).
 - c. Significant difficulty maintaining a safe living situation (e.g., repeated evictions or loss of housing).
3. Continuous high-service needs as demonstrated by at least one of the following:
 - a. High use of acute psychiatric hospitals (e.g., two or more admissions per year) or psychiatric emergency services.
 - b. Intractable (i.e., persistent or very recurrent) severe major symptoms (e.g., affective, psychotic, suicidal).
 - c. Co-occurring substance use disorder of significant duration (e.g., greater than six months).
 - d. High risk or recent history of criminal justice involvement (e.g., arrest and incarceration).
 - e. Significant difficulty meeting basic survival needs or residing in substandard housing, homelessness, or at imminent risk of becoming homeless.
 - f. Residing in an inpatient or supervised community residence, but clinically assessed to be able to live in a more independent living situation if intensive services are provided, or requiring a residential or institutional placement if more intensive services are not available.
 - g. Difficulty effectively utilizing traditional office-based outpatient services or other less-intensive community-based programs (e.g., consumer fails to progress, drops out of service).

4. Documentation of admission shall include:
 - a. The reasons for admission as stated by both the consumer and the PACT team.
 - b. The signature of the psychiatric prescriber.

Discharge Criteria

1. Discharges from the PACT team occur when consumers and PACT staff mutually agree to the termination of services. This shall occur when consumers:
 - a. Have successfully reached individually established goals for discharge and when the consumer and program staff mutually agree to the termination of services.
 - b. Move outside the geographic area of PACT's responsibility. In such cases, the PACT team shall arrange for transfer of mental health service responsibility to a PACT program or another provider wherever the consumer is moving. The PACT team shall maintain contact with the consumer until this service transfer is completed.
 - c. Demonstrate an ability to function in all major role areas (i.e., work, social, selfcare) without requiring ongoing assistance from the program for at least one year without significant relapse when services are withdrawn.
 - d. Decline or refuse services and request discharge, despite the team's best efforts to develop an acceptable person-centered treatment plan with the consumer.
2. In addition to the discharge criteria listed above based on mutual agreement between the consumer and PACT staff, a consumer discharge may also be facilitated due to any one of the following circumstances:
 - a. Death.
 - b. Inability to locate the consumer for a prolonged period of time.
 - c. Long-term incarceration.
 - d. Long-term hospitalization where it has been determined based on mutual agreement by the hospital treatment team and the PACT team that the consumer will not be appropriate for discharge for a prolonged period of time.
3. If the consumer is accessible at the time of discharge (i.e., according to circumstances listed under III.B.1 above), the team shall ensure consumer participation in all discharge activities, as evidenced by documentation as described below:
 - a. The reasons for discharge as stated by both the consumer and the PACT team.
 - b. The consumer's biopsychosocial status at discharge.
 - c. A written final evaluation summary of the consumer's progress toward the goals set forth in the person-centered treatment plan.
 - d. A plan developed in conjunction with the consumer for follow-up treatment after discharge.
 - e. The signature of the consumer, the consumer's primary practitioner, the team leader, and the psychiatric prescriber.
4. When clinically necessary, the team will make provisions for expedited re-entry of discharged consumers as rapidly as possible and will prioritize them on the admission and/or waiting list.

Appendix B. PACT Fidelity Review Reports

March 17-18, 2008

Fidelity Indicator	Rating	Fidelity Indicator	Rating
Human Resources	4.33 (subscale mean)	Organizational Boundaries	4.67 (subscale mean)
H1. Low Ratio of Consumers to Staff	5	O1b. Recruit & Ref (Admission Criteria)	5
H2. Team Approach	5	O1c. Recruit & Ref (Active Recruitment)	5
H3a. Daily Org. Staff Meeting (Frequency & Attendance)	5	O2. Gradual Admission Rate	5
H3b. Daily Org. Staff Meeting (Quality)	5	O3a. Full Responsibility for Case Management	5
H4a. Team Leader on Staff	5	O3b. Full Responsibility for Psychiatric Services	5
H4b. Team Leader Role	3	O3d. Full Responsibility for S/A Treatment	5
H5R. Office-Based Program Coordinator	5	O3e. Full Responsibility for Voc. Services	5
H7a. Psych Prescriber on Staff	5	O3f. Full Responsibility for Rehab Services	5
H7b. Psych Prescriber Role (In Treatment)	5	O3g. Full Responsibility for Wellness Management	1
H7c. Psych Prescriber Role (Within Team)	5	O4. Responsibility for Crisis Services	5
H8a. Nurses on Staff	5	O5. Responsibility for Hospital Admissions	5
H8b. Role of Nurse	5	O6. Responsibility for Hospital Planning	5
H9a. CD Specialist on Staff	3	O7. Open-Ended Services/Graduation	N/A
H9b. CD Specialist Role (In Treatment)	2		
H9c. CD Specialist Role (Within Team)	3		
H10a. Voc Specialist on Staff	3		
H10b. Voc Specialist Role (In Treatment)	3		
H10c. Voc Specialist Role (Within Team)	5		
H11a. Peer Specialist on Staff	5		
H11b. Peer Spec (role)	4		
H12r. Program Size	5		
Nature of Services	3.78 (subscale mean)	Person-Centered Recovery-Oriented Approach	3.20 (subscale mean)

Fidelity Indicator	Rating	Fidelity Indicator	Rating
S1. Community-Based Services	5	R2. Strengths Inform Treatment Plan	2
S2. No Dropout	5	R3. Person-Centered Planning	2
S3. Assertive Engagement	3	R4. Interventions Target Life Goals	4
S4. Intensity of Svc	5	R7. Active Stakeholder Group	4
S5. Frequency of Contact	5	R8. Consumer Self-Determination	4
S6. Freq of Contact Natural Supp	2		
S7r. Individual and Group DD Treatment	5		
S9. Dual Disorders Model	1		
S10r. Supported Employment Model	3		

March 18-19, 2009

Table 1. Summary of TMACT Items and Ratings		
ITEM		RATING
OPERATIONS & STRUCTURE (OS) SUBSCALE		
OS1	LOW RATIO OF CONSUMERS TO STAFF	5
OS2	TEAM APPROACH	5
OS3	DAILY TEAM MEETING (FREQUENCY & ATTENDANCE)	5
OS4	DAILY TEAM MEETING (QUALITY)	4
OS5	PROGRAM SIZE	5
OS6	RECRUITMENT & REFERRAL (EXPLICIT ADMISSION CRITERIA)	5
OS7	RECRUITMENT & REFERRAL (ACTIVE RECRUITMENT)	5
OS8	GRADUAL ADMISSION RATE	5
OS9	OPEN-ENDED SERVICES/GRADUATION	5
OS10	NO DROPOUT POLICY	4
OS11	COORDINATION OF HOSPITAL ADMISSIONS	5
OS12	COORDINATION OF HOSPITAL DISCHARGES	5
OS13	DEDICATED OFFICE-BASED PROGRAM ASSISTANCE	5
OS Subscale Average Rating		4.85
STAFFING & ROLES – GENERAL (SG)		

SG1	TEAM LEADER ON STAFF	5
SG2	TEAM LEADER IS PRACTICING CLINICIAN	5
SG3	PSYCHIATRIC PRESCRIBER ON STAFF	5
SG4	PSYCHIATRIC PRESCRIBER'S ROLE (IN TREATMENT)	5
SG5	PSYCHIATRIC PRESCRIBER'S ROLE (WITHIN TEAM)	5
SG6	NURSES ON STAFF	5
SG7	ROLE OF NURSES	5
SG Subscale Average Rating		5.00
STAFFING & ROLES – SPECIFIC (SS)		
SS1	SUBSTANCE ABUSE SPECIALIST ON TEAM	5
SS2	ROLE OF SUBSTANCE ABUSE SPECIALIST (IN TREATMENT)	4
SS3	ROLE OF SUBSTANCE ABUSE SPECIALIST (WITHIN TEAM)	4
SS4	VOCATIONAL SPECIALIST ON TEAM	5
SS5	ROLE OF VOCATIONAL SPECIALIST ON TEAM (EMPLOYMENT SERVICES)	4
SS6	ROLE OF VOCATIONAL SPECIALIST ON TEAM (WITHIN TEAM)	4
SS7	PEER SPECIALIST ON THE TEAM	5
SS8	ROLE OF PEER SPECIALIST ON THE TEAM	4
SS Subscale Average Rating		4.13
GENERAL SERVICES (GS)		
GS1	COMMUNITY-BASED SERVICES	5
GS2	ASSERTIVE ENGAGEMENT MECHANISMS	3
GS3	INTENSITY OF SERVICE	5
GS4	FREQUENCY OF CONTACT	5
GS5	FREQUENCY OF CONTACT WITH NATURAL SUPPORTS	1
GS6	RESPONSIBILITY FOR CRISIS SERVICES	5
GS7	FULL RESPONSIBILITY FOR PSYCHIATRIC SERVICES	5
GS8	FULL RESPONSIBILITY FOR REHABILITATIVE SERVICES	5
GS Subscale Average Rating		4.25
EVIDENCE-BASED SERVICES (ES)		
ES1	FULL RESPONSIBILITY FOR SUBSTANCE ABUSE TREATMENT	4
ES2	FULL RESPONSIBILITY FOR EMPLOYMENT SERVICES	4

ES3	FULL RESPONSIBILITY FOR WELLNESS MANAGEMENT SERVICES	5
ES4	DUAL DISORDERS (DD) MODEL	3
ES5	SUPPORTED EMPLOYMENT (SE) MODEL	4
ES Subscale Average Rating		4.00
RECOVERY-ORIENTED PRACTICES (RP)		
RP1	STRENGTHS INFORM TREATMENT PLAN	4
RP2	PERSON-CENTERED PLANNING	4
RP3	INTERVENTIONS TARGET A BROAD RANGE OF LIFE GOALS	4
RP4	CONSUMER SELF-DETERMINATION & INDEPENDENCE	4
RP Subscale Average Rating		4.00
TMACT OVERALL RATING		4.46

Appendix C. Data Analysis

Distribution of Inpatient Days Post PACT Admission

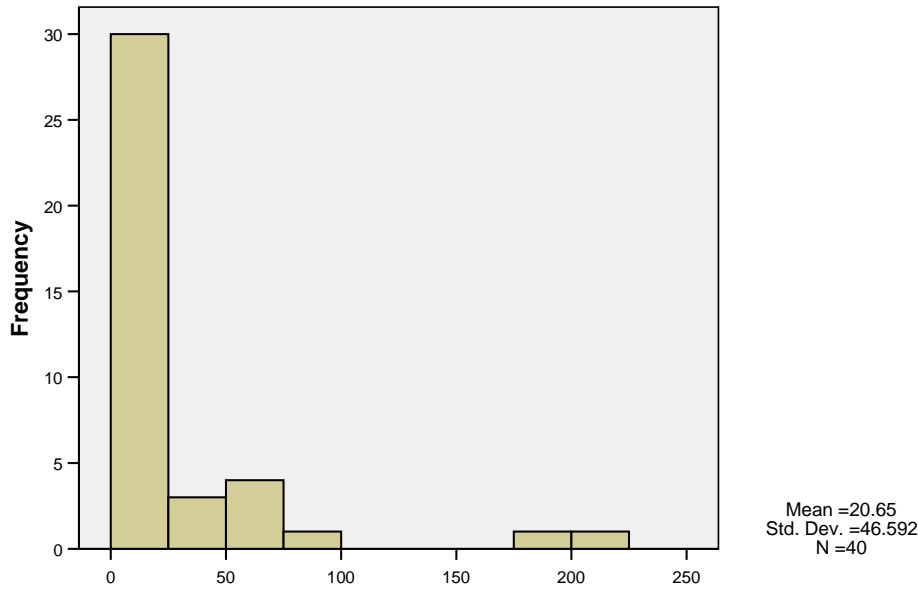


Table 1. Distribution of Dependent Variable, IP Days Occurring Post PACT Admission

Distribution of Difference Between IP Days At 2 Measurement Periods (Post minus Pre)

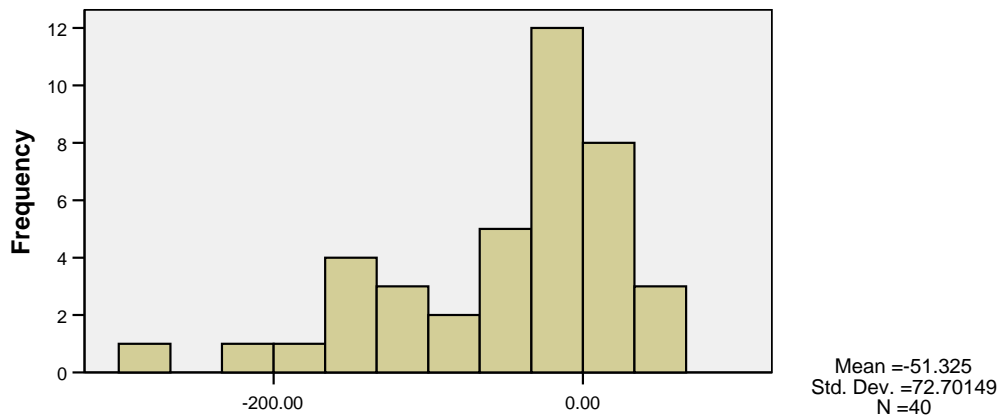


Table 2. Distribution of Differences between the Independent and Dependent Variables