

Performance Improvement Project (PIP) Name: Congruence of Coordinated Service Plans and Mental Health Treatment Plans

Activity I: Select the Study Topic(s)

A. Step One: Choose the Selected Study Topic. Topics selected for study should reflect the Medicaid enrollment in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of the disease. Topics could also address the need for a specific service. The goal of the project should be to improve processes and outcomes of health care. The topic may be specified by the State Medicaid agency or on the basis of Medicaid enrollee input.

Study Topic:

The Coordinated Service Plan (CSP) document provides a central tool for organizing the provision of services across child serving agencies, contracted providers, and families. The CSP is designed to be a central reference point in the development of specific Mental Health Treatment Plans (MHTP) by each specific provider. Review of the CSP and MHTP by treatment teams ensures that the services procured and provided by separate individuals and institutions collectively address the broad needs and goals for the child's treatment. Each child is expected to have a CSP within 30 days of registration that is revised on an annual basis and reviewed for update on at least a semiannual basis or whenever clinically relevant.

The Hawaii Child and Adolescent Mental Health Division (CAMHD) has implemented a multiyear quality improvement initiative related to CSP timeliness and quality. A performance improvement project was completed in 2003 that demonstrated significant improvements had been achieved in the timely completion of CSPs. To assure that increased timeliness does not result in decreased quality, routine performance measures of CSP timeliness and CSP quality have been implemented and monitored for the past four years. Both the timeliness and quality indicators have demonstrated sustained performance improvement and have exceeded their performance targets over the past year as described in the Integrated Performance Monitoring Reports (Hawaii Departments of Education and Health, 2007).

Another relevant CAMHD initiative has focused on expanding the measurement of provider practices through the development and use of the Monthly Treatment and Progress Summary (MTPS). This instrument asks providers to report on the specific treatment settings, formats, targets, and practices employed in a youth's treatment during the calendar month. The code set used for this measure was also employed by the CAMHD Evidence-Based Services (EBS) Committee to code the empirically supported treatments identified in the research literature. The application of these code sets to mental health assessment and treatment-planning documents creates the potential for understanding the congruence and divergence of treatment information across the communication channels among the numerous actors in the child's care.

Upon review of this information the CAMHD Quality of Care Studies task force recommended that the next step in quality development for the CSP process is to examine the degree to which the timely and high quality CSPs play a role in coordinating the planning for services by individual provider agencies. This recommendation was reviewed and approved by the Performance

Performance Improvement Project (PIP) Name: Congruence of Coordinated Service Plans and Mental Health Treatment Plans

Improvement Steering Committee (PISC) and the Executive Management Team (EMT) for implementation as a service-related quality of care study for calendar year 2006. As a result of the baseline study, CAMHD staff were accepted to present at the 20th Annual Research Conference, *A System of Care for Children's Mental Health: Expanding the Research Base*.

The implementation workgroup proposed a two-phase study with the first phase being a study of the inter-rater reliability of the code set when applied to the treatment plan documents. The first phase of this study found acceptable reliability, so the second phase was also conducted to examine the degree of congruence between the CSPs and the MHTPs with respect to the treatment targets and treatment practices coded. Greater congruence of these plans serves as an indicator of the degree of coordination in the planning of care for youth. In 2006 a remeasurement was completed and compared with the 2005 baseline results.

Children and adolescents on Medicaid, considered a high-risk population, comprise a large portion of the CAMHD clientele. The purpose of this study is to identify interventions that will improve congruence in assessment and treatment documents for Medicaid and non-Medicaid clients. Development of a high degree of inter-document congruence is expected to improve mental health treatment outcomes for all youth.

B. Step Two: The Study Question. Stating the question(s) helps maintain the focus of the PIP and sets the framework for data collection, analysis, and interpretation.

Study Question:

Does focused feedback and training on the logic model of CSP-MHTP care coordination lead to improved congruence in the treatment targets and treatment practices recorded by case managers and providers in CSP and MHTP documents?

Performance Improvement Project (PIP) Name: Congruence of Coordinated Service Plans and Mental Health Treatment Plans

C. Step Three: Selected Study Indicators. A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received a flu shot in the last twelve months), or a status (e.g., a member's blood pressure is/is not below a specified level) that is to be measured. The selected indicators should track performance or improvement over time. The indicators should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research.

| | |
|--|--|
| Study Indicator #1: | Congruence Between Treatment Targets on Coordinated Service Plans and Mental Health Treatment Plans (i.e., Conditional probability that a treatment target was included in an MHTP given that it was included in the CSP) |
| Numerator: | Number of Treatment Targets Present on Both Coordinated Service Plan and Mental Health Treatment Plan |
| Denominator: | Number of Treatment Targets Present on the Coordinated Service Plan |
| First Measurement Period Dates: | January 1 to December 31, 2005 |
| Baseline Benchmark: | .50 |
| Source of Benchmark: | Rationally Selected |
| Baseline Goal: | |
| Study Indicator #2: | Congruence Between Treatment Practices on Coordinated Service Plans and Mental Health Treatment Plans (i.e., Conditional probability that a treatment practice was included in an MHTP given that it was included in the CSP) |
| Numerator: | Number of Treatment Practices Present on Both Coordinated Service Plan and Mental Health Treatment Plan |
| Denominator: | Number of Treatment Practices Present on the Coordinated Service Plan |
| First Measurement Period Dates: | January 1 to December 31, 2005 |
| Baseline Benchmark: | .50 |
| Source of Benchmark: | Rationally Selected |
| Baseline Goal: | |
| Study Indicator #3: | |
| Numerator: | |
| Denominator: | |
| First Measurement Period Dates: | |
| Benchmark: | |
| Source of Benchmark: | |

Performance Improvement Project (PIP) Name: Congruence of Coordinated Service Plans and Mental Health Treatment Plans

| | |
|--|--|
| Baseline Goal: | |
| <i>Study Indicator #4:</i> | |
| Numerator: | |
| Denominator: | |
| First Measurement Period Dates: | |
| Benchmark: | |
| Source of Benchmark: | |
| Baseline Goal: | |
| <i>Study Indicator #5:</i> | |
| Numerator: | |
| Denominator: | |
| First Measurement Period Dates: | |
| Benchmark: | |
| Source of Benchmark: | |
| Baseline Goal: | |
| <i>Study Indicator #6:</i> | |
| Numerator: | |
| Denominator: | |
| First Measurement Period Dates: | |
| Benchmark: | |
| Source of Benchmark: | |
| Baseline Goal: | |

Performance Improvement Project (PIP) Name: Congruence of Coordinated Service Plans and Mental Health Treatment Plans

D. Step 4: Identified Study Population. The selected topic should represent the entire Medicaid enrolled population with system-wide measurement and improvement efforts to which the PIP study indicators apply. Once the population is identified, a decision must be made whether to review data for the entire population or a sample of that population.

Identified Study Population:

The identified population will be all youth who were (a) admitted to a regional Family Guidance Center for CAMHD for services between July 1, 2003 and June 30, 2004 for baseline, (b) admitted to a regional Family Guidance Center for CAMHD for services between May 1, 2006 and December 31, 2006 for the first remeasurement, (c) had at least one intensive mental health service authorized to a network provider; and (d) for whom at least one Coordinated Service Plan and at least one Mental Health Treatment Plan were available. All treatment documents developed within the first six months following admission will be considered and the first CSP and all of its associated MHTPs during the six-month period following admission will be selected for coding and analysis. This population includes both QUEST and non-QUEST youth, but the results from the QUEST population are reported here with descriptive statements about the generality of findings to the total population.

E. Step 5: Sampling Methods. If sampling is to be used to select members of the study, proper sampling techniques are necessary to provide valid and reliable information on the quality of care provided. The true prevalence or incidence rate for the event in the population may not be known for the first time a topic is studied.

| Measure | Sample Size | Population | Method for Determining Size (<i>describe</i>) | Sampling Method (<i>describe</i>) |
|---|---|---|--|--|
| Conditional probability that a treatment target was included in a Mental Health Treatment Plan given that it was included in the Coordinated Service Plan | <u>Baseline</u> 103 Youth Total Sample 47 Youth QUEST Sample | <u>Baseline</u> 561 Youth | <u>Baseline</u> Used ICC Sample | <u>Baseline</u> Simple Random Sampling of Cases |
| | <u>Remeasurement #1</u> 59 Youth Total Sample 33 Youth QUEST Sample | <u>Remeasurement #1</u> 179 youth 110 QUEST youth | <u>Remeasurement #1</u> Census of all CAMHD clients meeting population criteria with both guiding documents in their records. | <u>Remeasurement #1</u> No Sampling Method – A census was used with listwise deletion of missing data (30% completion rate) |
| Conditional probability that a treatment practice was included in a Mental Health Treatment Plan given that it was included in the | <u>Baseline</u> 103 Youth Total Sample 47 Youth QUEST Sample | <u>Baseline</u> 561 Youth | <u>Baseline</u> Used ICC Sample | <u>Baseline</u> Simple Random Sampling of Cases |
| | | | | <u>Remeasurement #1</u> |

Performance Improvement Project (PIP) Name: Congruence of Coordinated Service Plans and Mental Health Treatment Plans

| Coordinated Service Plan | <u>Remeasurement #1</u> | <u>Remeasurement #1</u> | <u>Remeasurement #1</u> | No Sampling Method – A census was used with listwise deletion of missing data (30% completion rate) |
|--------------------------|--|---|---|---|
| | 59 Youth Total Sample 33 Youth QUEST Sample | 149 youth met inclusion criteria from a total of 357 youth admitted during period | Census of all CAMHD clients meeting population criteria with both guiding documents in their records. | |
| | | | | |
| | | | | |
| | | | | |

F. Step 6: Data Collection Procedures. Data collection must ensure that the data collected on the PIP indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained. Reliability is an indication of the repeatability or reproducibility of a measurement.

- Clear identification of the data to be collected
- Identification of the data sources and how and when the baseline and repeat indicator data will be collected
- Specification of who will collect the data
- Identification of instruments used to collect the data
- Medical/treatment records
- Administrative data:
 - Claims/encounter data Complaints Appeals Telephone service data Appointment/access data
- Hybrid (medical/treatment records and administrative)
- Pharmacy data
- Survey data (attach the survey tool and the complete survey protocol)
- Other (list and describe):

If medical/treatment records, check below:
 Medical/treatment record abstraction

If survey, check all that apply:

If administrative, check all that apply:

- Programmed pull from claims/encounter files of all eligible members
- Programmed pull from claims/encounter files of a sample of members
- Complaint/appeal data by reason codes

Performance Improvement Project (PIP) Name: Congruence of Coordinated Service Plans and Mental Health Treatment Plans

- Personal interview
- Mail
- Phone with CATI script
- Phone with IVR
- Internet
- Incentive provided
- Other (list and describe):

- Pharmacy data
- Delegated entity data
- Vendor file
- Automated response time file from call center
- Appointment/access data
- Other (list and describe):

Enrollment information to identify first episodes during period.

F. Step 6a: Data Collection Cycle.

- Once a year
- Twice a year
- Once a season
- Once a quarter
- Once a month
- Once a week
- Once a day
- Continuous
- Other (list and describe):

Annual data collection was scheduled, but delayed due to administrative obstacles

Data Analysis Cycle.

- Once a year
- Once a season
- Once a quarter
- Once a month
- Continuous
- Other (list and describe):

Annual data collection was scheduled, but delayed due to administrative obstacles

F. Step 6b. Other Pertinent Methodological Features. Complete only if needed.

Performance Improvement Project (PIP) Name: Congruence of Coordinated Service Plans and Mental Health Treatment Plans

G. Step 7. Improvement Strategies. Real, sustained improvements in care result from a continuous cycle of measuring and analyzing performance, and developing and implementing system-wide improvements in care. Describe interventions designed to change behavior at an institutional, practitioner, or beneficiary level.

As previously noted, this study represents a reasonable next step in CAMHD efforts to improve the quality and utility of the service planning process. The current interventions of quarterly review for timeliness and quality of CSPs, along with public reporting and individualized feedback will be continued. The baseline year intervention was the development and application of a reliable system for coding the congruence of service and treatment plans.

Because the system was proven to be reasonably reliable, a congruence analysis was performed, and the Quality of Care Committee determined that the baseline indicated a need for improvement of congruence between the CSP and the MHTP. A benchmark was established. For the first remeasurement period, CAMHD implemented the following interventions to improve congruence:

Performance Improvement Project (PIP) Name: Congruence of Coordinated Service Plans and Mental Health Treatment Plans

- 1) Focused feedback to care coordinators, supervisors and providers on the results of the 2005 baseline study including:
 - Technical report posted on CAMHD website (Appendix D);
 - Article posted in CAMHD newsletter summarizing results of the study (Appendix E);
 - Highlights of study and reference to Technical report and newsletter article e-mailed to all CAMHD employees State Management Team presentation of results of study (Appendix F);
 - State Management Team presentation of results of study;
 - Consultation to providers as requested (Appendix G);
- 2) A focus group in which these role groups solicited strategies to improve congruence at the field level, (Appendix H)
- 3) Selection of strategies based on the focus group results,
- 4) Implementation of focus group intervention which included (Appendix I):
 - Completion of a “Congruence Form”, identifying specific needs and concerns for each newly admitted youth;
 - Completion of same form for each youth already receiving services;
 - Dissemination of the form to treatment providers via mass mailing accompanied by a letter introducing and explaining the form;
 - Distribution of completed forms to providers by attaching them to the tops of CSPs for new youth; and
 - Delivery of completed forms to providers for youth already receiving services;
- 5) Systematic feedback to the role groups on future measurements in order to provide feedback on the most current performance data regarding congruence, and

Performance Improvement Project (PIP) Name: Congruence of Coordinated Service Plans and Mental Health Treatment Plans

6) Remeasurement in Fall 2007 to be performed by Performance Management staff and Family Guidance Center Quality Assurance Specialists. Remeasurement will occur every year of the study. Future Interventions to be implemented during the second remeasurement period will include:

- Revision of the Congruence Form by Quality Assurance Specialists, and continued use of the revised form;
- Increased coordination around development of MHTPs;
- Presentation of study results at Provider Meeting;
- Involvement of Training Committee to improve system wide training focused on increasing the link between the CSP and MHTP; and
- Continued monitoring of outcomes and revision or standardization of interventions as is appropriate.

These interventions are expected to induce a permanent improvement in the congruence of CSPs and MHTPs.

Performance Improvement Project (PIP) Name:

H. Step 8. Data analysis and interpretation of study results: Describe the data analysis process on the selected clinical or non-clinical study indicators. Include the statistical analysis techniques utilized.

To examine the congruence of treatment targets and practices across the planning documents, conditional probability analysis was used. Specifically, the conditional probability was calculated to indicate the likelihood that a treatment practice or treatment target was included in the mental health treatment plan given that it was present in the coordinated service plan. To create a simple ratio for reporting, the total number of targets (or practices) that were present in both documents was divided by the total number of targets that were present in the coordinated service plan. A Chi-square Test was used to evaluate differences between baseline and remeasurement #1 proportions. A z-test was used to compare the observed proportions to the performance benchmark. A 95% confidence level and two-tailed tests were used for all analyses.

Analysis of treatment target found that the point estimate for the conditional probability increased from .44 at baseline to .49 at the first remeasurement period. However, the Chi-square test of these proportions was not statistically significant indicating that this difference may be due to sampling error. Comparison of the point estimate to the performance benchmark of .50 was not statistically significant. This indicates that performance at remeasurement was comparable to the performance benchmark within the margin of error of this study. The fact that remeasurement did not differ from the industry benchmark, whereas the baseline level did differ from the industry benchmark, offers cause for optimism that some quality improvement has been achieved. Nevertheless, the lack of a significant Chi-square test calls for cautious optimism. For the Chi-square test to achieve significance, 12 additional agreements from among the 167 disagreements would have been necessary.

Analysis of treatment practices found that the point estimate for the conditional probability increased from .40 at baseline to .44 at the first remeasurement period. However, the Chi-square test of these proportions was not statistically significant indicating that this difference may be due to sampling error. Comparison of the point estimate to the performance benchmark of .50 was statistically significant and indicated that performance remained below the benchmark. Thus, performance has not materially improved during the first intervention period. For the Chi-square test to achieve significance, 13 additional agreements from among the 224 disagreements would have been necessary.

Analysis of the treatment targets and practices did not yield any additional statistically significant results. As at baseline, performance in the QUEST population was somewhat better than performance in the total population. Taken together, these findings suggest that intervention should be continued and likely escalated during the second intervention period.

I. Step 9. Reported Improvement: Describe any meaningful change in performance observed during baseline measurement that was demonstrated.

#1 Quantifiable Measure: Conditional probability that a treatment target was included in a Mental Health Treatment Plan given that it was included in the Coordinated Service Plan (QUEST Sample)

| Time Period Measurement Covers | Baseline Project Indicator Measurement | Numerator | Denominator | Rate or Results | Industry Benchmark | Statistical Test and Significance* |
|--------------------------------|--|-----------|-------------|-------------------------------|--------------------|---|
| January 1 to December 31, 2005 | <i>Baseline:</i> | 150 | 338 | .44 95% CI: .392 - .497 | .50 | Test of difference from baseline to remeasurement 1: |
| May 1 to December 31, 2006 | Remeasurement 1: | 157 | 324 | .49 95% CI: .431 - .539 | .50 | $\chi^2 (1, n = 662) = 1.11, p = .293$ Test of difference from benchmark at remeasurement 1: |
| | Remeasurement 2: | | | | | $z = -0.56, p = .289$ |

#2 Quantifiable Measure: Conditional probability that a treatment practice was included in a Mental Health Treatment Plan given that it was included in the Coordinated Service Plan (QUEST Sample)

| Time Period Measurement Covers | Baseline Project Indicator Measurement | Numerator | Denominator | Rate or Results | Industry Benchmark | Statistical Test and Significance* |
|--------------------------------|--|-----------|-------------|-------------------------------|--------------------|---|
| January 1 to December 31, 2005 | <i>Baseline:</i> | 136 | 343 | .40 95% CI: .346 - .449 | .50 | Test of difference from baseline to remeasurement 1: |
| May 1 to December 31, 2006 | Remeasurement 1: | 174 | 398 | .44 95% CI: .389 - .486 | .50 | $\chi^2 (1, n = 741) = 1.25, p = .263$ Test of difference from benchmark at remeasurement 1: |
| | Remeasurement 2: | | | | | $z = -2.36, p = .009$ |

#3 Quantifiable Measure:

| Time Period Measurement Covers | Baseline Project Indicator Measurement | Numerator | Denominator | Rate or Results | Industry Benchmark | Statistical Test and Significance* |
|--------------------------------|--|-----------|-------------|-----------------|--------------------|------------------------------------|
| | <i>Baseline:</i> | | | | | |
| | Remeasurement 1: | | | | | |
| | Remeasurement 2: | | | | | |

#4 Quantifiable Measure:

| Time Period Measurement Covers | Baseline Project Indicator Measurement | Numerator | Denominator | Rate or Results | Industry Benchmark | Statistical Test and Significance* |
|--------------------------------|--|-----------|-------------|-----------------|--------------------|------------------------------------|
| | <i>Baseline:</i> | | | | | |
| | Remeasurement 1: | | | | | |
| | Remeasurement 2: | | | | | |

* If used, specify the test, p value, and specific measurements (e.g., baseline to remeasurement #1, remeasurement #1 to remeasurement #2, etc., or baseline to final remeasurement) included in the calculations.

Performance Improvement Project (PIP) Name:

J. Step 10. Sustained improvement: Describe any demonstrated improvement through repeated measurements over comparable time periods. Discuss any random year-to-year variation, population changes, and sampling error that may have occurred during the remeasurement process.

As of the first remeasurement, significant improvement has not been achieved that could be sustained. The results at the first remeasurement offer reason for a cautious optimism regarding the interventions as the point estimates moved in the expected direction. It remains an open question whether this is due to real improvements with a small effect size or sampling error.

Many population factors remained stable from the baseline to remeasurement periods, but some population changes were also evident. During FY 2004 to FY 2005, the overall size of the CAMHD population was relatively stable, but the population size increased in FY 2006. The gender distribution, average client age, diagnostic distribution, and average severity at intake were also relatively stable during these periods.

The CAMHD population has also been evolving to a higher proportion of Quest involvement and a lower proportion of Special Education and Juvenile Justice involvement. However, the separate analysis of the Quest population reported here should reasonably control confounding of the current analysis.

The regional distribution of cases has also been evolving, so apparent performance changes over time may be due in part to differences in local performance, rather than actual quality improvement within regions. Unfortunately, the sample size remains too small to support reasonable analysis of regional subgroups within the population.

The small sample size (n = 33) and poor data completion rate (i.e., 30%) place serious limitations on the interpretability of these results. It appears that the low completion rate is due largely to missing Mental Health Treatment Plans (MHTPs; 30% completion rate) and not Coordinated Service Plans (CSPs; 83% completion rate). From a substantive improvement perspective, this may suggest a breakdown in the process of care coordinators collecting, reviewing, and filing MHTPs in CAMHD client records. On the other hand, this may also indicate a failure of network providers to develop treatment plans. Alternatively, this may reflect a breakdown in the organization, storage, and retrieval of client records that makes it difficult to extract information for this evaluation. All phases of this process would seem to offer new opportunities for expanding intervention during the second intervention phase and would hopefully increase the congruence among these plans.