Strategies for Measuring the Impact of SCDC's Alcohol Treatment Unit (ATU)

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Table of Contents

Overview

Background for this Report: Beginning November 2012, Drs. Pam Imm and Annie Wright were contracted through the South Carolina Department of Public Safety to assist the South Carolina Department of Corrections (DOC) in developing a process and outcome evaluation plan for the Alcohol Treatment Unit (ATU). This report describes these two major deliverables as well as recommendations to be considered as the ATU moves forward with implementation and evaluation. Appendix A is a the general evaluation logic model for the ATU.

"Given the high cost of incarceration, the high probability of repeated criminal activity following release, and the relatively modest cost of treatment, investing in effective and targeted prison-based substance abuse treatment makes economic sense". Dr. Gary Zarkin, *Health Economics*, June 2012

Format for this Report: This report is divided into separate four separate sections. Section I highlights General Impressions compiled from the consultants in their work and interactions with those in the Division of Behavioral Health and Substance Abuse Services (the "Division"). Section II describes key outcome evaluation questions developed in collaboration with the Division and suggests how various statistical techniques could be used to answer the outcome questions. Section III provides process evaluation questions and includes data elements currently collected at SCDC and potential data that could be collected to precisely answer the process evaluation questions. In some cases, the proposed data elements are already collected but are not available electronically by the Resource Information Management (RIM) system. Section IV includes a detailed summary of how analyses may be done once data are in an electronic and usable format to run more sophisticated analyses. Section V is a general summary and recommendations for consideration as the Division moves forward with promoting accountability through evaluation and quality improvement.

Key Activities for Consultation: To accomplish these two major deliverables, Drs. Imm and Wright participated in a variety of in-person meetings, site visits and work sessions with SCDC staff. These are highlighted in the following table and reports have been provided monthly to DPS and SCDC.

Table I: In-Person Consultation Meetings

Date	In-Person Meetings
November 15, 2012	Orienting meeting with Rob McManus (DPS), Kennard Dubose (Division Director of Behavioral Health and Substance Abuse Programs), and Charles Bradberry (Resource Information Management)
November 26, 2012	Meeting with Kennard Dubose and Nikki Frierson, (Quality Assurance Manager)
December 12, 2012	Meeting with Charles Bradberry and staff of Resource Information Management (RIM)
December 17, 2012	Meeting with Kennard Dubose
January 8, 2013	Tours of Lee and Turbeville Correctional Facilities; observe program offerings, informal meetings with program staff and Prison Warden at Lee, and brief inmate interviews
January 9, 2013	Meeting with entire Quality Assurance staff
February 6, 2013	Debriefing meeting with Kennard Dubose and Nikki Frierson
February 21, 2013	Meeting with Charles Bradberry and staff of Resource Information Management (RIM)
March 19, 2013	Meeting with Kennard Dubose and Nikki Frierson, (Quality Assurance Manager)
April 4, 2013	Presentation to Mr. Carmichael and Kennard Dubose

To develop a process evaluation of the ATU program at SCDC, a variety of existing program elements were reviewed to understand the current methods used to monitor the provision of addiction services in the ATUs. Several of these include:

- Screening tools used for identification of substance abuse problems (e.g., TCU screening tool)
- Assessment tools for more in-depth identification of problems (e.g., biopsychosocial assessment)
- Programmatic components of the therapeutic community (e.g., implementation manual, education modules, homework, etc)
- Existing evaluation tools (e.g., client satisfaction survey, group evaluation form)
- Data from RIM that is regularly inputted and reported

After document reviews and several information gathering sessions, the evaluators proposed orienting outcome and process evaluation questions that would assess the quality of the ATU services as well as the contribution that ATU may have on reducing recidivism.

Section I: General Impressions

This section describes general impressions of the Division compiled through observations and formal and informal meetings. These impressions are provided here as a way to highlight several contextual factors that could eventually impact the quality of the process and outcome evaluation. While some of these observations may not include new information, they represent key issues to recognize and/or address.

- The Division Director of the Behavioral Health and Substance Abuse Services has challenged his staff (including Quality Assurance personnel) to become more evidence-based in their approaches to assessment and treatment. This change, which will ultimately promote high-quality treatment and accountability, has implications for modifying existing protocols and practices which may have been in existence for decades. This is notable because the Division staff have embraced the opportunities to improve service delivery and related outcomes in spite of the fact that organizational changes frequently come with resistance, misunderstanding, and uncertainty about future roles.

- The Division Director is interested in the Division becoming more results-oriented in its approach to services and programming. Specifically, key personnel are being encouraged to provide input on processes to promote continuous quality improvement in the services offered by the Division. Staff show a great deal of genuine commitment to the populations they serve, demonstrate buy-in to the therapeutic communities approach, and welcome opportunities to provide feedback to promote results-based accountability.

- The mainframe computer operating system is significantly outdated and the Division lacks a useful information technology system that could improve efficiency and effectiveness of staff productivity and the services they provide. This has implications for the productivity of all personnel, the ability to incorporate timely process data into planning for services, the accessibility of updated information, and the need for timely communication across programs and management.

- Staff in the Division are very knowledgeable about existing programs and protocols and are eager to utilize incoming process data to continuously improve services. This input and feedback are also being extended to those who are receiving services (e.g., inmates) through informal and more formalized feedback methods (e.g., focus groups with inmates).

- The Resource Information Management Division (RIM) has many high-quality datasets that have not regularly been utilized for ongoing process evaluation in a meaningful way. Staff at RIM seem eager to work with the Division to provide this information to help answer the evaluation questions proposed (see Sections II and III). It is likely that the goals of RIM dovetail with the data collection needs of the Division (i.e., utilize internal information for timely decision-making). RIM's ability to integrate datasets ensuring access to data across multiple service sectors within SCDC (e.g., inmate services) will contribute to improved monitoring of ATU services and related outcomes.

- The inmates served by ATU have a variety of mental health and substance abuse issues that should be viewed as chronic conditions that cannot be effectively addressed with only ATU

services. Collaboration across systems in SCDC to assess and treat the multiple needs of the inmates is not totally apparent and could be strengthened. The opportunity to build on the work being done with juvenile offenders through the Youth Offender Intensification Services Program (YOIP) and with the female population are excellent examples of how ATU staff can build on a culture of evidence-based practices being implemented with inmates.

- Improving the skills of the workforce that is involved in the assessment and treatment of inmates is necessary to ensure high-quality treatment. While this definitely includes credentially and/or licensing staff, there also is a skill set of clinical training, relationship building, and experience delivering effective programs that is a priority for the Division. Building and refining these skills can be done through regular supervision at a variety of levels as well as improved programming and services that meets the variety of inmate needs. This will help promote accountability at the program and management levels. Cross training opportunities could be made available to ensure that a variety of professionals include evidence-based practices and services to inmates (e.g., mental health, education, etc.).

- During the course of the brief five-month consultation period, it is noteworthy that quality assurance procedures were significantly enhanced including protocols and procedures for tracking the quality of services provided by staff. Additional tools and audit processes are being developed, and in some cases, pilot testing procedures were already finalized. This intentional focus on high-quality program delivery will likely go a long way toward reaching internal standards necessary for successful implementation of ATU.

Section II: Outcome Evaluation of ATU

The purpose of the outcome evaluation strategy proposed here is to collect the data necessary to ask and answer a primary question of impact: **Does ATU participation reduce recidivism?** Specifically, when inmates receive ATU services through SCDC, are they less likely to recidivate compared to inmates who did not receive ATU services and compared to inmates who received other types of services?

Recidivism is caused by multiple, inter-related factors, making it difficult to pinpoint specific or stand-alone indicators. Therefore, to be able to accurately state the impact of ATU on recidivism, **ATU staff should compare overall recidivism rates to rates for those who complete ATU and to be able to account for the differences between those groups.** To account for those differences, the effects of ATU services themselves on recidivism have to be isolated. This involves *controlling for* other known factors that could plausibly contribute to recidivism. In general, these factors relate to individual characteristics at entry (e.g., cognitive capacity, social skills), services they receive while in SCDC (e.g., education, chaplain services), and follow through on after care treatment plans (e.g., 12-step groups, medication). Clearly, many factors contribute to the likelihood of recidivism and parceling out the contribution of ATU is challenging and requires more complex statistical analyses.

Orienting outcome evaluation questions

1. What are the overall base rate recidivism rates for all SCDC inmates and how do these rates differ for different populations?
2. What presenting factors need to be controlled for to understand isolated impact of ATU on recidivism?

To develop an outcome evaluation, we propose two main outcome evaluation questions. In the sections that follow, we describe what types of data would be necessary to answer the questions and potential options for statistical methods.

Orienting Outcome Evaluation Questions

1. What are the recidivism rates for all SCDC inmates and how do these rates compare for different populations?

To isolate the effects of the ATU services for inmates, it is useful to first know what the overall rate of recidivism is for all inmates to determine if those completing ATU is lower, or perhaps, higher than overall rates. As stated above, multiple factors contribute to recidivism; some include factors that are present before an inmate even arrives (see orienting outcome evaluation question #2). Other factors involve what inmates receive during their incarceration at SCDC, including ATU and/or other opportunities through Inmate Services.

For example Table 2 shows the recidivism rates over the past 5 years for those completing the ATU and for those in the general population[1] (data from RIM, accessed December 2012).

Table 2. Recidivism Rates for SCDC General Population and ATU Completers

Recidivism Rates of Populations	**2007**	**2008**	**2009**
General SCDC population	33.5%	30.6%	29.4%
Inmates completing ATU	39.1%	39.0%	33.3%

Data in Table 2 indicate that while both populations have recidivism rates that are trending down, the ATU participants have consistently higher recidivism rates. Understanding why these differences exist and how ATU strategies may be improved to show better results is the purpose of the proposed outcome and process evaluation methods proposed in this report.

It is well known that there are many reasons why an inmate on parole/probation might be returned to prison. While a variety of behind-the-fence inmate services and programs as well as strong environmental and community factors will contribute to reduced recidivism, this overall picture provides an opportunity for initial rates and general comparison.

Data needed to answer Outcome Evaluation Question #1

Yearly recidivism rates are readily available from RIM including breakdowns by various demographic groups (e.g., age, gender, race) and for different program service groups (e.g., education, workforce training, etc.). Appendix B is an example of the recidivism charts developed by RIM. Currently, ATU participation is not regularly included in this type of reporting. We recommend that ATU staff collaborate closely with RIM to request regular reporting of the recidivism rates of ATU inmates (i.e. add a row to the regular reporting table that includes ATU inmates). This will allow comparisons of recidivism rates for different populations. These data can be regularly run by RIM and provided in a one-page report that they routinely produce when looking at the recidivism rates for other SCDC programs (e.g., education). The reports should be reviewed regularly by ATU leadership and shared with site staff and others at the institutions that play a role in shaping programs (e.g., Prison Wardens).

While regularly reviewing these reports is a good start for understanding differential impact, they do not currently account for overlap between various types of services that inmates might receive. For example, recidivism rates may be compared for inmates who receive ATU services and inmates who receive Workforce Training, but these types of summary reports do not necessarily show differences between those who receive both. We recommend that ATU staff collaborate with RIM staff to generate **Service Profile** codes. We recommended that the types of services inmates receive while incarcerated be tracked, allowing for "clusters" of inmates with different service-delivery profiles to be created and analytically compared. [For example, Cluster1 may be inmates who receive only ATU services, Cluster 2 may be ATU and education services, and Cluster 3 may be ATU, education and mental health.] Recidivism rates should then be compared across these clusters to answer important

questions about differential impact including: Did inmates receive the type of services that their assessment results indicated? Do inmates who get more services have better outcomes? What is the most effective combination of services for reducing recidivism, and for which sub-populations?

Understanding the validity of recidivism data. To accurately use recidivism rates as an outcome indicator, several factors must be considered. Specifically, there are many "routes" to recidivating and understanding which route someone takes, and why, may help inform future interventions. For example, some reasons for revocation may be directly related to alcohol or drug-related crimes (e.g., robbery), while others may be less direct. Additionally, the decision by a judge to revoke parole is likely to be idiosyncratic with little standardization among judges. Regardless of why a client returns to SCDC, the overall issue for all inmates upon release is successful reentry into a community. This includes factors related to how well prepared the inmate is to adapt to freedom of choices, to obtain and retain employment or pursue education options, interact with family members and circles of friends, and fully initiate and engage in access to after care and recovery support services. Although reasons for recidivism rates vary, the general idea is that a strong outcome analyses plan could account for known differences (e.g., gender) and offer explanations about the effects of certain types of programming above and beyond these known differences (e.g., females recidivate less than males, younger inmates recidivate more frequently than older inmates).

2. What presenting factors need to be controlled for to understand isolated impact of ATU on recidivism?

To best understand what impact ATU services have on eventual recidivism, many factors have to be understood. In Outcome Evaluation Question #1, we established the need to know annual recidivism rates, and how these rates differ among various groups of inmates. Even before inmates arrive at SCDC, however, they have accumulated a set of risk and protective factors that could plausibly impact their likelihood for recidivism before they ever receive ATU services. It is also helpful to know how inmates who enter ATU differ from those who do not. This may help understand what other factors besides ATU services might contribute to successful reentry and lends itself to the overall need to isolate the impact of ATU services themselves on recidivism.

Data needed to answer Outcome Evaluation Question #2

All inmates upon entry receive a Texas Christian University's TCU-II screening tool that has been used at SCDC for many years. At the time, the screening tool was viewed as an evidence based tool and current literature reviews suggest the utility of the tool remains high. In addition, clients also receive a biopsychosocial assessment that is a longer form to help identify additional problem areas (e.g., depression, etc.) as well as inform treatment recommendations. This assessment form, which is promoted by South Carolina's Department of Alcohol and Other Drug Abuse Services (DAODAS) is likely to be significantly revised by DAODAS within the next year. Maintaining connection with DAODAS to integrate its updated assessment into SCDC is suggested, but also, there is likely to be a need to add questions that are more customized to inmate populations (e.g., prior treatment history will probably be more important than a measure of 30-day use).

Although inclusion criteria for males and females differ slightly, the screening, assessment, and programmatic components are similar. For youthful offenders, screening and service provision through the use of a Global Risk Assessment (e.g., GRAD) is being reviewed and revised. This suggests that the youth ATU program will be significantly revised and improved through updated screening and assessment procedures and programmatic services including close supervision and community connections upon release (i.e., GFAST). The review and improvement of services for youth is important given that age is frequently a mediating factor for recidivism (with younger inmates more likely to recidivate), suggesting that focusing on effective interventions for the youthful offenders is a wise investment of resources.

In addition to recommending using an enhanced or improved assessment tool at intake, we recommend that a comprehensive assessment be done closer to the date of ATU entry. Given the variability in the time between intake and ATU entry, it is important that a more current assessment of risk factors for relapse and recidivism be conducted as well as readiness for treatment be documented and considered. Clearly, the SCDC has a large population of inmates that could benefit from ATU, but since the beds are few and resources low, it seems logical to have high readiness for treatment as a priority variable to consider for entry into ATU.

Table 3: Summary of Data Recommended to Conduct Outcome Evaluation

Data Currently Collected	Additional Data to be Collected
SCDC Recidivism	Use current recidivism data and add: **SLED** re-arrest reports Out of state re-arrest/re-incarceration data
Codes for Program Services and Demographic identifiers are included in RIM • how far from max out date ATU participants • participants' custody level • participants' detainer status • mental health code/status • whether need 24 hour medical care • AIDS/HIV status/whether need separation • whether current or prior sex crime • documented acts of violence in previous 6 mo • history of positive drug tests • whether court ordered	Use current program codes and add: **Service Profiles** (using existing codes in RIM and adding additional codes as needed, develop "clusters" of inmates that would quantify different service profiles. For example, Cluster 1 may be inmates who receive only ATU services, Cluster 2 may be ATU and Workforce Training, and Cluster 3 may be ATU, Workforce and Mental Health)
TCU - at intake, inmate met screening criteria for addiction or not Sections of the intake form include: • Socioeconomic background • Family background • Peer relations • Criminal history • Drug History • Health and Psychological status • AIDs risk assessment	**Enhanced/Improved Assessments for Risk** Current TCU screening and add: Biopsychosocial assessment at intake that includes multiple domains related to addiction & ultimately to recidivism. Assess closer to date of entry into ATU services to determine readiness for treatment

Promoting and Monitoring Longer-Term Results

In the Outcome Evaluation section of this report, we established that factors that inmates "bring with them" into the prison setting, and services they receive while incarcerated certainly impacts recidivism. Additionally, factors that are present (or absent) following release can impact whether inmates will successfully reintegrate into their community or whether they will be re-incarcerated. Upon release, the Department of Probation, Pardon, and Parole (PPP) becomes involved with the release of the inmates through supervision, monitoring, and case management; a set of services that could be viewed as an extension of ATU. In ATU units, efforts are underway to link youthful offenders with their Intensive Supervision Officer (ISO) prior to their release to build rapport and plan for the transition back to their communities. For all ATU inmates, the enrollment in community-based addiction, recovery, and support services (e.g., 12 -step program) are critical services that can increase their likelihood of success outside of prison.

Efforts are already underway by ATU staff to develop follow-up measures with program graduates 90 days post-release. It is likely that a follow-up assessment will include measures related to health, employment, and successful integration into community. In addition, we recommend strong collaboration between SCDC/ATU and PPP data management systems such that data are shared, easily accessible, and relevant to each agency's evaluation questions. For example, ATU staff may be particularly interested in the extent to which its' graduates are complying with parole conditions in comparison to released populations that did not receive ATU or received other types of services[1].

[1] ultimately, PPP compliance and other indicators of post-release success could be included in regression models as an additional predictor of recidivism

Section III: Process Evaluation of ATU

Orienting process evaluation questions

1. How much ATU services do inmates receive? (quantity)
2. What is the quality of ATU services that are provided?

The outcome evaluation strategies proposed above are designed to inform *whether* enrollment in ATU services was related to a reduction in recidivism rates above and beyond other factors. The process evaluation questions are designed to help answer the question of *how*. Knowing this allows staff to continue to customize services to address inmates' biopsychosocial needs, which will in turn help to improve outcomes (i.e. reduce recidivism).

As a strategy for understanding the process by which ATU services reduce recidivism, we propose two main process evaluation questions that will include monitoring the dosage and quality of ATU services as well as highlighting the importance of post-release factors. This largely includes monitoring what actually happens when someone participates in ATU services so that linkages between ATU program components and recidivism outcomes can be made.

Orienting Process Evaluation Questions

1. What amount of ATU services do inmates receive?

A major task involved in being able to explain how ATU services impact outcomes is simply being able to document, over time, how much (or how many) ATU services inmates receive. This can be described as the dosage of ATU, and this process data collected can help answer questions such as:

- Do inmates who receive more ATU services have better outcomes?
- At each institution, what is the average number of hours of ATU services for inmates?
- Of the total number of hours "logged" in ATU, over an approximate 6-9 month treatment period, what is the average percentage of time was spent in: didactice group lessons, individual counseling, and/or group counseling.

When dosage data are combined with other available data, then questions such as the following can be asked and answered.

- Is there a threshold of effective hours, where additional ATU hours past that threshold no longer contribute to outcomes significantly?
- Which types of inmates benefit from more ATU hours and which benefit from less?

To document dosage, staff currently count the hours that inmates attend ATU services for a certain period of time (e.g., 6-9 months) prior to qualifying for graduation from the program. Depending on the institutional setting, ATU staff may also have paper records of sign-in sheets for various program

components that are summed for each participant to develop an estimated total number of hours of exposure to ATU services.

In addition to tracking the amount of services provided to individual inmates, we will also include under this heading the monitoring of the total number of inmates serve by ATU overall. Relevant questions here may include:

- What percentage of all inmates coming into SCDC screen positive for an addiction problem?
    - Of those that screen positive for addictions, what percentage actually enroll in ATU services and
    - Of those enrolled in ATU, what percentage graduate? (by institution)

1. Data needed to answer Process Evaluation Question #1

Currently, ATU staff have access to the following data in electronic format about ATU participants: whether they completed Orientation, outcomes of their Assessment, whether they completed Intake, and either Successful or Unsuccessful Completion. If the inmate is going to be supervised under PPP, electronic results of the inmate's Compass evaluation could be made available from PPP (by request). This would allow ATU staff to determine whether an inmate enrolled in services post release.

To address additional process questions related to dosage, electronic databases could be developed alongside existing RIM databases that are organized by an inmate's identification number (ID) and includes program-specific fields (see Table III). Ideally, new databases developed to track delivery of ATU services would be organized by ID and linked to RIM. In this way, ATU staff could determine and monitor specific data elements for each inmate. For example, on-site staff could record information about the number of lessons completed by inmates, specific test scores, or even reasons why their services were abbreviated. This would enhance the ability of ATU staff to report more precisely about inmates' exposure to ATU services (i.e. dosage) above and beyond whether they were enrolled and/or completed.

2. What is the quality of ATU services that are provided?

A second major task associated with monitoring the implementation of ATU services as part of a comprehensive process evaluation is documenting the quality of delivery of ATU services. Measurements of quality are an important counterpart to measures of quantity of services. Just because more services are provided does not necessarily mean they are effective for reaching program goals or addressing inmates' needs. Note that monitoring the *quality of delivery of services* is not the same as monitoring the *effectiveness of services*. The effectiveness falls under the purview of outcome evaluation, discussed above. Quality of service delivery refers to components of actual program delivery which may include, but are not limited to establishing clinical rapport and positive therapeutic relationships, presenting program materials in an engaging manner, and being responsive to individual inmate's needs. This has clear implications for the training of staff in how they implement and delivery the program/services.

Data needed to answer Process Evaluation Question #2

Several indicators of quality are already included in ATU services. For example, inmates complete a group evaluation form upon successful completion of program components. However, because these data are kept in program files and in binders, the utility of the information is minimal because 1) the data are not easily accessible to multiple staff members at once, 2) the data are not looked at in aggregate across programs and 3) the data are not utilized to assess quality of service delivery or to improve services. The lack of electronic data in a usable format for ATU is a significant issue that must be addressed if data for process evaluation are to be used in meaningful ways.

The Division is currently undergoing a process of refining and implement specific quality assurance processes for ATU. These new procedures and tools will significantly enhance the Division's ability to document the quality of delivery of services as well as to be able to use the information effectively. The new procedures, to begin in spring 2013, will include more precise documentation of the competencies of hired staff, as well as documentation of important capacity building for staff such as hours of training, supervision, and coaching. Site visits, random review of records, and announced and unannounced observations are also planned in order to "spot-check" for service quality. In addition to the satisfaction forms, more rigorous evaluation of the effectiveness of ATU group and individual services (e.g., follow up survey) are being developed to be administered to inmates at the conclusion of services. (See Table III). Formulating a professional development plan for staff which includes ongoing review of notes by supervisors, observations/ratings of staff, and clear benchmarks for staff improvement is likely to contribute to the Division reaching internal standards for the quality of program services and delivery. After the Division considers which data to collect to answer each process evaluation question, it will be wise to develop a pilot period to collect and analyze the data to ensure that data collection processes are being done accurately.

Table 4: Summary of Data Recommended to Conduct Process Evaluation

Data currently collected	Additional data to collect
Indicators of Amount (dosage)	
From RIM: Orientation Assessment Intake Completion **From ATU staff:** Whether inmates completed phases in order to graduate	Hours logged in group services Hours logged in individual services Total number of hours logged in ATU services Progressing and success of individual treatment plan
Indicators of Quality	
Scores on end-of-phase tests Inmate satisfaction surveys Whether discharged from program for disciplinary problems (SCDC defined, not ATU team specific) Drug test results while in ATU Successful completion/graduation	Staff competencies (e.g., 90-day new employee checklist/review) Outcomes of site visits, record reviews and observations Findings from inmate focus groups Client satisfaction survey Group evaluation form 90 day follow-up survey Supervision notes Professional development progress plan Whether discharged from program because of disciplinary problems or non-compliance based on treatment team's recommendation Whether inmate became a mentor to other ATU participants

Section IV. Recommendations for Analyses

The process and outcome process and outcome data described above could be used in three primary ways. We present them in order of their statistical "strength," recognizing that it takes time and significant coordination to develop datasets that can be utilized in these ways. Therefore, we present a range of options that ATU staff may choose depending on the data and other resources available.

OUTCOME ANALYSES

Option 1: The straightforward reporting of recidivism rates for different groups with no additional statistical tests run will show program staff general trends in data (ex: Appendix B). For example, data could be presented that shows the recidivism rates for ATU inmates over time (e.g., 3-year trend). These trends might show a slight increase or decrease, and ATU staff could work together to interpret why those changes occur, and what implications those changes have for programming.

Option 2*:* Second, ATU staff can begin to collaborate with staff at RIM to run basic mean difference comparisons which can be completed with common statistics software packages (such as SPSS). Here, we recommend running an Analysis of Variance (ANOVAs) to determine whether the mean differences between any three groups are statistically significant. An example might be running an ANOVA with three groups: those who get ATU services, those who get ATU and Workforce training and those who get Workforce training only. If the test is significant, there is a conclusion that the groups are statistically significantly different from one another. Follow-up planned post hoc comparisons can then be used to determine which groups account for the significant differences among recidivism rates.

PROCESS ANALYSES

Similar to strategies for analyzing outcome data (i.e. recidivism), a straightforward reporting of aggregate data points can help ensure accountability by encouraging staff to document attendance as well as quality of program delivery. For amount of services, the following data could be presented for each institution that houses an ATU, allowing ATU staff to determine similarities and differences across settings:

- total number of ATU service hours logged this reporting period
- average number of service hours for inmates
- average number of service hours logged for on-site ATU staff

For quality of services, a variety of available data can help ATU staff determine how well program components are being delivered (see Table III). ATU staff have discussed developing a rubric and scoring system so that quality indicators can be quantified (e.g., Quality Assurance Review Template). For example, on-site staff may be eligible to receive a score ranging from 1 to 100. If the development of a scale like this is successful, then total and average scores could be examined by institution. This data should be compared to qualitative data such as observations, supervision notes and inmate focus group results to create a comprehensive understanding of how and where service delivery could be improved.

LINKING PROCESS & OUTCOME DATA

A final recommendation that would be the most statistically rigorous is the development of regression models that can help ATU staff determine the impact of ATU programs above and beyond other services inmates receive at SCDC. This type of analysis would link process data (quantity and quality of ATU services) with outcome data to answer the evaluation questions of paramount interest: **Does participation in ATU reduce recidivism, and how?**

The model described below will be contingent on data-sharing across divisions within SCDC, as well as availability of electronic data. Outcome data would come from the RIM database while process evaluation data could come from ATU staff. Data would need to be merged into a single dataset based on an inmate ID number in order to run any analyses similar to these proposed. Because of this, the proposed model represents a commitment to evaluation and will take time to develop effectively. Depending on the nature of the data and the resources of SCDC staff, the evaluation questions may be best answered by a hierarchical regression, a logistic regression, or perhaps by a hierarchical linear modeling technique. The description of a proposed model that follows will assume that a hierarchical regression is the best choice of analysis.

In a regression model, predictors that are known to impact the dependent variable (recidivism) would be entered first as independent variables. Referred to as "blocks," these could include presenting factors determined from the biopsychosocial assessment as well as demographic identifiers (e.g., age, gender). Next, the clusters of inmates' Service Profiles could be entered as separate independent predictors followed by a final block of predictors that indicate how much ATU an inmate received as well as the quality of services provided. Lastly, though the data are not currently available to ATU staff, it is possible that data from PPP could be entered as an additional block to account for what happens with ATU participants after they have left SCDC. (See Table IV).

The dependent variable could be adjusted depending on what staff are most interested in. That is, a model could use a 1 year recidivism rate as the outcome and a second model could be run that used a 5 year recidivism rate as an outcome. Appropriate statistical adjustments should be utilized if a large number of statistical tests are going to be run.

Depending on the final type of statistical test chosen, this type of analysis would allow ATU staff to answer their ultimate evaluation question of **whether ATU participation reduces recidivism** in the following statistical terms:

A. Once demographic and presenting factors are controlled for, does participation in ATU explain a significant amount of variance in recidivism rates?

B. What Service Profile (ex: ATU + Workforce + Mental Health) explains the most variance in recidivism rates and for whom (e.g., subpopulations)?

C. Does the quantity and quality of ATU describe a significant amount of variance in recidivism rates?

D. How much does participation in required activities of PPP (e.g., 12-step meetings, follow up psychiatric care, etc.) explain a significant amount of variance in recidivism above and beyond other predictors (demographic, presenting, and services provided including ATU)?

Table 5: Summary of Proposed Process and Outcome Evaluation Analysis Model

Possible Independent Variables	Possible Dependent Variables
Block 1 Race Gender Age Presenting risks & strengths (ex: prior incarceration) **Block 2** Service Profile Clusters **Block 3** Total number of hours logged in ATU Quality indicators of ATU program delivery[2] **Block 4** 90-day follow up survey PPP compliance indicator[3]	1 Year Recidivism 2 Year Recidivism 3 Year Recidivism 4 Year Recidivism 5 Year Recidivism[4]

[2] contingent on developing quantified quality score

[3] contingent on availability of PPP data; a compliance indicator could be derived from PPP records of how well inmate is adhering to PPP mandates and directives

[4] see notes in outcome evaluation Section II about improving validity of recidivism data as an outcome indicator

Section V: General Recommendations

The 5-month consultation process with the Division of Behavioral Health and Substance Abuse Services resulted in process and outcome evaluation plans that were facilitated by frequent meetings with staff, agency personnel, and site visits. Clearly, the direction of the Division is to become more results-oriented in their approach to assessment, intervention, and evaluation. The focus on utilizing evidence-based practices in the ATU is consistent with the expectation that there will be data gathered to document progress toward desired outcomes and longer-term results.

This report highlights key variables that are currently in place and new data elements that could be collected to answer process and outcome evaluation questions highlighted in this report (See Tables 3 and 4). The following recommendations are provided as a way to further refine evaluation efforts of ATU and are divided according to the infrastructure necessary for evaluation, tasks associated with high-quality evaluation, and utilization of data for continuous quality improvement.

Infrastructure:

1) Share this report among key staff and stakeholders. Consider how future data collection efforts and results could be routinely shared with personnel to help make data-informed decisions. The review of data such as ATU recidivism rates by institution is likely to be of interest to those in leadership roles and in direct service positions (e.g., Wardens. Program Directors).
2) Develop a strategy to facilitate intentional coordination with PPP's data systems. Specifically, obtaining timely access to the data on shared populations would facilitate the understanding of predictors of outcomes such as recidivism. To some degree, SCDC only has control of what occurs with inmates when they are behind the fence. While these proposed evaluation plans may help to better understand how well ATU contributes to the desired outcomes (e.g., recidivism), the direct attribution of cause and effect is erroneous without considering a variety of factors including what services/resources inmates access once they leave SCDC.
3) Currently, most data related to amount and quality of ATU services (e.g., process evaluation data) only exist in hard-copy, paper formats. All data collected should be in an electronic database form. To the extent possible, the database should be compatible with RIM (i.e. utilizing shared codes and ID numbers) and accessible by the RIM (and ATU) data management staff. Data should be "tagged" by inmate ID number so that any information entered into the system related to that one particular inmate can be queried. While data at RIM are electronic, the aggregate data for ATU have not been frequently reviewed or accessed by ATU staff.
4) Meaningful collaboration between Divisions at SCDC could be significantly improved. While the consultants were initially eager to examine how the Division interfaced with mental health (and general health) to meet the needs of inmates in ATU, it was clear these services were seen as separate. This disconnection among Divisions in the agency is likely to contribute to the disconnection for inmate services at the individual level, which ultimately affects the public (e.g., high recidivism, public safety, etc.). Working collaboratively across Divisions among

SCDC would be a true indicator of systems-level change that could promote results-based accountability for all stakeholder groups.

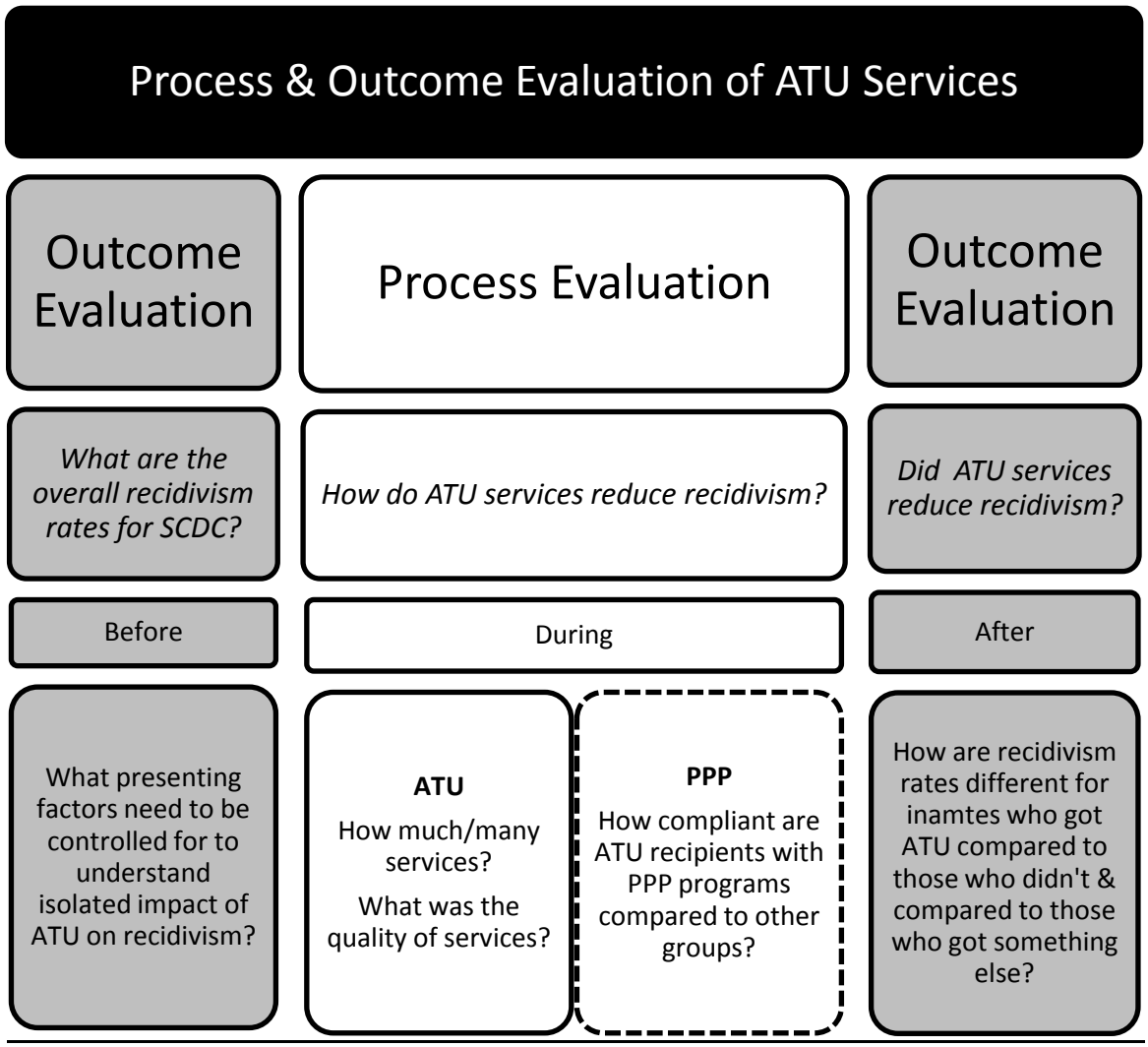
Evaluation Tasks:

1) ATU staff should be trained on how to properly record, enter, and monitor process evaluation information into an electronic database. Although more sophisticated analyses will be done by those with different skill sets, the ATU staff will need to understand that the quality of the data entered into any electronic database is critical and will matter. Both additional staff and updated quality assurance procedures would need to be developed for electronic reporting.
2) The updating of any curricula and/or evaluation forms will likely require a pilot period to ensure that the new procedures are in place with well trained staff. As ATU staff begin to consider utilizing electronic devices for their reporting, ongoing training and technical assistance will be necessary.
3) The RIM staff can be a useful resource to the Division as they begin to consider systematic evaluation efforts of ATU. Collaborating planning efforts between RIM and ATU that promotes a better understanding of each Division will facilitate connections that can be useful in programming and evaluation.

Data Utilization:

1) While many key stakeholders will focus on how well the ATU program contributes to the ultimate outcome of recidivism, it will be important for ATU staff to regularly monitor their internal standards for program effectiveness. This suggests additional outcomes that can be tracked and reported such as number and types of inmates who successfully complete ATU, the number and types of inmates that improve psychological health (e.g., depression), as well as those that show genuine progress in their development as they move through ATU (e.g., less criminal thinking, willingness to make restitution). Identifying recidivism rates as the only indicator of program effectiveness is likely to be overly narrow especially in populations that have complex issues that will never be fully addressed by one program in a relatively short period of time.
2) The Division may want to form a data review team that can begin to review data related to existing and new ATU data elements. Over time, an established data review team comprised of those from various positions will be important as the Division intends to work toward more data informed decision making with all its programs/services.
3) The balance between promoting accountability and overburdening staff with necessary recordkeeping is always challenging. In general, one data utilization rule is to collect the data you'll use and use the data you collect. This truism may be a good way for staff to determine what data should be collected to answer existing as well as new evaluation questions that will emerge.

Appendix A: Project Logic Model



Appendix B: Example of Available Recidivism Data

South Carolina Department of Corrections Recidivism Rates of Inmates Released during FY2004 - FY2009						
	Year of Release					
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total Number of Releases	**13,489**	**13,565**	**13,716**	**13,499**	**12,807**	**13,454**
Percentage of Releasees who Returned to SCDC:	Recidivism Rate by Year of Release					
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Within One Year or Less	12.1%	12.1%	11.9%	13.1%	12.3%	11.9%
Within Two Years or Less	24.5%	25.5%	25.6%	25.7%	24.0%	22.8%
Within Three Years or Less	33.0%	33.9%	33.6%	33.5%	30.6%	29.4%
Within Four Years or Less	38.4%	39.1%	38.8%	37.7%	35.6%	n/a
Within Five Years or Less	42.1%	42.6%	42.0%	40.9%	n/a	n/a
Comparison of 3-Year Recidivism Rates by Inmate Attributes						
Attributes	**FY 2004**	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Overall Rate	33.0%	33.9%	33.6%	33.5%	30.6%	29.4%
Gender						
Males	34.4%	35.3%	35.1%	35.1%	32.2%	30.7%
Females	22.2%	23.7%	22.3%	20.9%	18.5%	20.0%
Type of Release						
Maxout (Expiration of Sentence)	24.0%	25.3%	26.0%	25.6%	22.2%	20.8%

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Parole	29.1%	29.1%	27.9%	26.3%	25.2%	21.9%
Probation	42.1%	45.8%	43.9%	43.5%	41.5%	43.2%
Community Supervision	29.6%	34.1%	32.6%	32.3%	24.9%	21.6%
Youthful Offender Act* - Parole	53.4%	53.0%	52.8%	54.1%	52.8%	50.0%
Youthful Offender Act* - Maxout	33.9%	31.2%	33.9%	40.4%	29.7%	37.2%
Age at Release						
Under 25 Years	43.5%	43.2%	45.1%	44.9%	43.2%	41.1%
25-30 Years	30.7%	31.8%	30.8%	31.0%	29.2%	28.3%
31-40 Years	31.4%	33.3%	31.7%	32.1%	28.2%	25.9%
Over 40 Years	23.8%	26.4%	27.2%	27.2%	23.3%	23.5%
Program Participation						
Pre-Release	28.2%	31.1%	31.5%	29.7%	25.0%	25.7%
Work Program	25.9%	28.1%	27.4%	24.8%	23.4%	22.9%
Labor Crew	27.1%	29.4%	28.8%	25.4%	23.3%	23.1%
Labor Crew/Work Program	26.8%	29.2%	28.6%	25.4%	23.3%	23.2%
Prison Industry	27.8%	29.8%	27.2%	26.4%	23.4%	19.7%
Sentence Type						
Youthful Offender Act*	51.7%	50.9%	51.2%	52.7%	50.6%	49.0%
Straight-time	29.7%	31.4%	31.2%	30.7%	27.5%	26.4%
**Criminal History ** **						
Had Conviction and/or Commitment	33.6%	36.2%	36.4%	36.7%	32.9%	31.4%
Had Commitment	36.3%	38.9%	38.3%	38.2%	34.6%	32.9%
No Known Priors	22.1%	28.7%	27.9%	27.2%	26.4%	25.7%