EVALUATION SERVICES TO ENHANCE THE DATA MANAGEMENT SYSTEM IN CALIFORNIA (EnCAL)

FINAL REPORT 2011–2012

Richard A. Rawson, Ph.D., Darren Urada, Ph.D.,
Valerie Pearce Antonini, M.P.H., Brandy Oeser, M.P.H,
Adi Jaffe, Ph.D., Suzanne Spear, Ph.D., Howard Padwa, Ph.D., Desiree Crevecoeur-MacPhail, Ph.D., Elizabeth Schaper, B.A., and Diego Ramirez

UCLA Integrated Substance Abuse Programs

Prepared for the Department of Alcohol and Drug Programs,

California Health and Human Services Agency

University of California, Los Angeles Integrated Substance Abuse Programs

Table of Contents

Executive Summary

Chapter 1: Data Systems Improvements through Improved Client Identification

The UCLA Integrated Substance Abuse Programs (UCLA) team has developed an SAS program to correct erroneous unique identifiers (UIDs) currently used in California Outcomes Measurement Systems – Treatment (CalOMS-Tx). This program works with a 3rd party program called the Link King, which will need to be installed on an Alcohol and Drug Programs (ADP) computer, but once installed, ADP will be able to use UCLA's program solely by running a program in SAS. The program does not delete the original UIDs, but adds a new ID to each client that is more accurate.

In testing the UCLA program, we found that it resulted in a substantial number of originally "unique" UID values being combined because more than one UID had erroneously been assigned to the same person. Within the cumulative CalOMS-Tx file we used, there were 135,100 such Client_UID values, resulting in 372,917 observations being combined. This number represents approximately 15% of the present CALOMS-Tx dataset, meaning the linkage program results in a substantial improvement of UIDs.

Chapter 2: Integration of Substance Abuse Services, Mental Health Services, and Primary Care

UCLA gathered information on integration efforts around the nation from literature searches, interviews, conferences, webinars, learning collaboratives, and studies of county pilot integration initiatives. A great deal of work remains ahead across the realms of policy, research, training, and technical assistance. Recommendations include facilitating referral to treatment, revising the Drug Medi-Cal program, addressing substance use disorder (SUD) shortcomings in reimbursement policies and incentive programs, facilitating preparations for the "medicalization" of the field, planning to address expected challenges with homeless and criminal justice populations, and continuing involvement in collaborative pilot projects, research, training, and technical assistance.

Chapter 3: Performance Measurement, Monitoring, Management, and Dashboard Development

UCLA analyzed CalOMS-Tx data and found that patients who received treatment within 14 days of being discharged from detoxification had better outcomes. This supports the use of detoxification-to-treatment transfer rates as a performance measure. UCLA provided ADP staff with training and a program to enable ADP to analyze these types of transfer rates and to perform other types of episode analyses and will continue to work with ADP to develop and expand in-house expertise on these types of analyses, opening new opportunities to conduct evaluation and performance measurement.

To further improve performance measurement, ADP may wish to weigh the benefits and costs of improving the CalOMS-Tx system by adding a discharge measure of treatment visits modeled on data collected by New York treatment providers. To inform this decision, evaluations could potentially be conducted to determine how beneficial the addition of this measure would be to performance measurement efforts.

Significant improvements have been made to UCLA's dashboard performance measure templates over the last year based on feedback from ADP and the CADPAAC data and outcomes

committee, and these templates are included in this report. This iterative process should continue and be extended to actual treatment programs to obtain their feedback.

Despite increases in coverage of substance use disorder services in insurance programs for low-income patients, referrals to SUD specialty care have changed very little at this point.

In summary, a great deal of work remains ahead across the realms of policy, research, training, and technical assistance to ready California for the future. While the SUD field is not yet prepared for the major changes anticipated from health care reform in 2014, efforts to learn about and implement integration are moving the state in the right direction. UCLA looks forward to continuing to work with ADP and other stakeholders to provide evaluation, training, and technical assistance to continue to move the field forward in the years ahead.

Chapter 1: Data Systems Improvements through Improved Client Identification

Adi Jaffe, Ph.D., and Darren Urada, Ph.D.

Acknowledgment: The authors would like to thank Kevin Campbell, creator of the Link King software, for his technical assistance with the accompanying program.

Summary

The ISAP team developed a SAS program to correct erroneous unique identifiers (UIDs) currently used in CalOMS-Tx. Programming and UID details are provided throughout the chapter. The procedure requires installing a program called Link King on an ADP computer, but once that is installed ADP will be able to use UCLA's program solely by running a program in SAS. The program does not delete the original UIDs but adds a new ID to each client that is more accurate in identifying and counting truly unique treatment clients.

The procedures resulted in a substantial number of originally "unique" UID values being combined because more than one UID had erroneously been assigned to the same person. Within the cumulative California Outcomes Measurement Systems – Treatment file we used, there were 135,100 such Client UID values, resulting in 372,917 observations being combined. This number represents approximately 15% of the present CalOMS-Tx dataset, meaning the linkage program results in a substantial improvement in UIDs. Therefore, the linkage program also results in substantial improvements in measuring counts of unique clients in California, service utilization patterns, and related program performance and client outcomes.

I. Introduction

A top priority of the California Department of Alcohol and Drug Programs (ADP) is to improve the accountability of the alcohol and other drug (AOD) treatment system in California in terms of ensuring quality services and effective treatment client outcomes.

One of the critical aspects to such accountability is the treatment client identifiers in the CalOMS-Tx system, as these are used to assess the number of unique clients in the treatment system, determining if the same person was admitted for multiple types of treatment service (i.e., detoxification, residential, and outpatient), tracking the client through episodes of care comprising multiple service types, measuring program performance related to transferring clients to further needed services (e.g., from detoxification to further residential/outpatient treatment), and measuring changes in client functioning from the beginning of the treatment episode to discharge from the last service.

At present, the ADP utilizes a deterministic computer algorithm that assigns clients a CLIENT_UID variable value based on a number of criteria, including their date of birth, first and last names at birth, county of birth, state of birth, gender, and mother's first name. When observations are unmatched or when crucial identifier data are missing, the records are considered to represent a different individual and are assigned a unique CLIENT_UID value. In past work (Urada et al., 2011), ISAP made recommendations regarding specific client identifier improvements using in-depth examinations of sample datasets drawn from the complete CalOMS-Tx database, which revealed misidentification in approximately 6.4%–7.2% of cases.

The most prevalent problems that cause misidentification include changes in a person's name, transposition of a person's first and last name, mother's first name mismatch, birth county mismatch, having only initials entered, conflicting dates of birth, and typographical errors or use of a nickname in one of the observations. The ISAP analysis also showed that social security number (SSN) matches provided some of the strongest evidence for a match when considering any single identifier, although we were previously unable to report on relative SSM mismatches. Unfortunately, perhaps due to the high missing-rate for SSNs, they are not currently used in the ADP protocol. Since the submission of these recommendations, the ISAP team has been developing a process to improve on present client identifiers used in CalOMS-Tx.

The goal of the procedures outlined here is to allow for the CalOMS-Tx data, especially the annually created SAS "fixed" datasets, to benefit from an improved level of agreement between the true population treated and that represented in the dataset by resolving a substantial proportion of inaccurate CLIENT_UID values provided in the raw data. These procedures could also be used to correct errors in the "live" file that ADP's office of Applied Research and Analysis creates on a biweekly basis for ongoing analyses or in previously produced "fixed" datasets. We have been using a program called The Link King (Version 7.1.21; Campbell, Deck, & Krupski, 2008) in an attempt to improve the final results of the client linkage procedure. The Link King is free software produced by Camelot Consulting, and its operation for the purposes of the current procedure should require no additional consulting aside from basic technical support for installation. Link King uses both deterministic (i.e., rule-based match decisions) and probabilistic (i.e., likelihood-based match decisions) criteria when determining matches. Combining rule-based and likelihood-based matching methods can help ameliorate known weaknesses in both methods when they are used individually (Hser & Evans, 2008; Campbell, 2008). Our work has resulted in a final product composed of a single SAS program to be run by ADP. This program properly imports the CalOMS-Tx data from a raw text file into SAS dataset format, formats variables within it appropriately for use by the matching program, runs the Link King matching process, and provides a final output file that includes the original Client-UID variable as well as a new "UniqueID" identifier.

II. Objectives

The objectives identified in the EnCAL contract included development and provision of technical assistance regarding the unique participant identifiers used to identify clients in CalOMS-Tx, consistent with recommendations in UCLA's EnCal 2010-11 report, which identified fixable problems with the current CalOMS-Tx identifiers. UCLA developed a model process or program to demonstrate production of identifiers that allow CalOMS-Tx to more accurately identify and count unique clients. UCLA will also contribute recommendations for technical assistance materials for providers (included in this chapter), targeting common errors that result in inaccurate CalOMS-Tx identifiers and therefore inaccurate client counts.

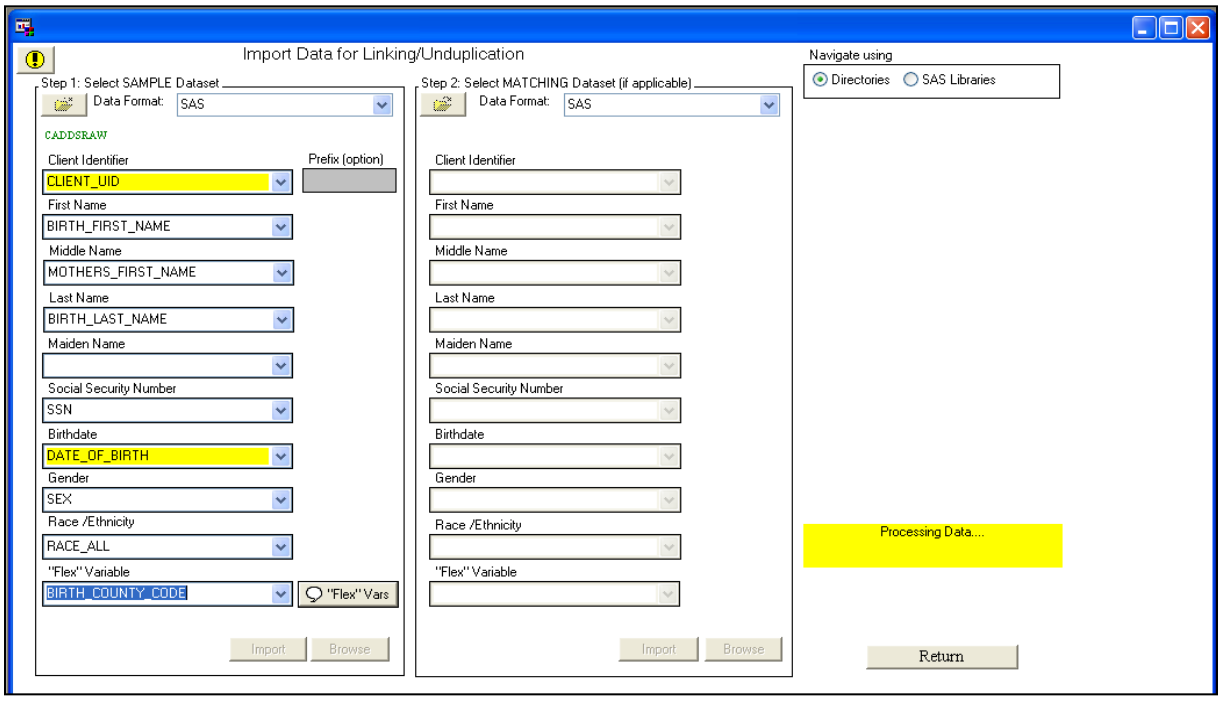
III. Methods and Work Plan for Improved Client Identification

In order to simplify the analysis procedures, UCLA used the most stringent Link King criteria, relying only on high-certainty matches. Other options that provide more flexibility in matching require repeated, time-consuming, post-analysis attention and were found by us to produce minor, if not negligible, improvement in final results. More details on these aspects of the procedure follow below.

Variables and Link King Parameters Used

After trying various parameters, the following Link King parameters were used for the final linkage program. The Link King screens for selecting these are shown below, in case ADP wishes to test different variations. However, ADP does NOT need to access these screens to use the pre-configured program supplied by UCLA.

The developed procedure utilizes the Client_UID variable supplied by ADP and the client's date of birth, social security number, birth first and last names, county of birth, gender, race, and mother's first name. This set of matching variables is more extensive than the set originally utilized by ADP and allows for more flexibility and accuracy when combined with the deterministic and probabilistic approaches utilized by Link King. Specifically, the Link King algorithm allows for partially matching SSN values, partially transposed date of birth values, as well as common variations, misspellings, and nicknames for many first and last names using its probabilistic procedures. This variable selection allows us to make use of the single most predictive identifier (i.e., SSN), while also compensating for its high missing rate, due to the availability of a number of additional quality identifier variables that are better matched using the combination deterministic and probabilistic methods. This is specifically important for the birth name, birth county, and mother's name identifiers reported in our previous work as producing a substantial amount of errors.



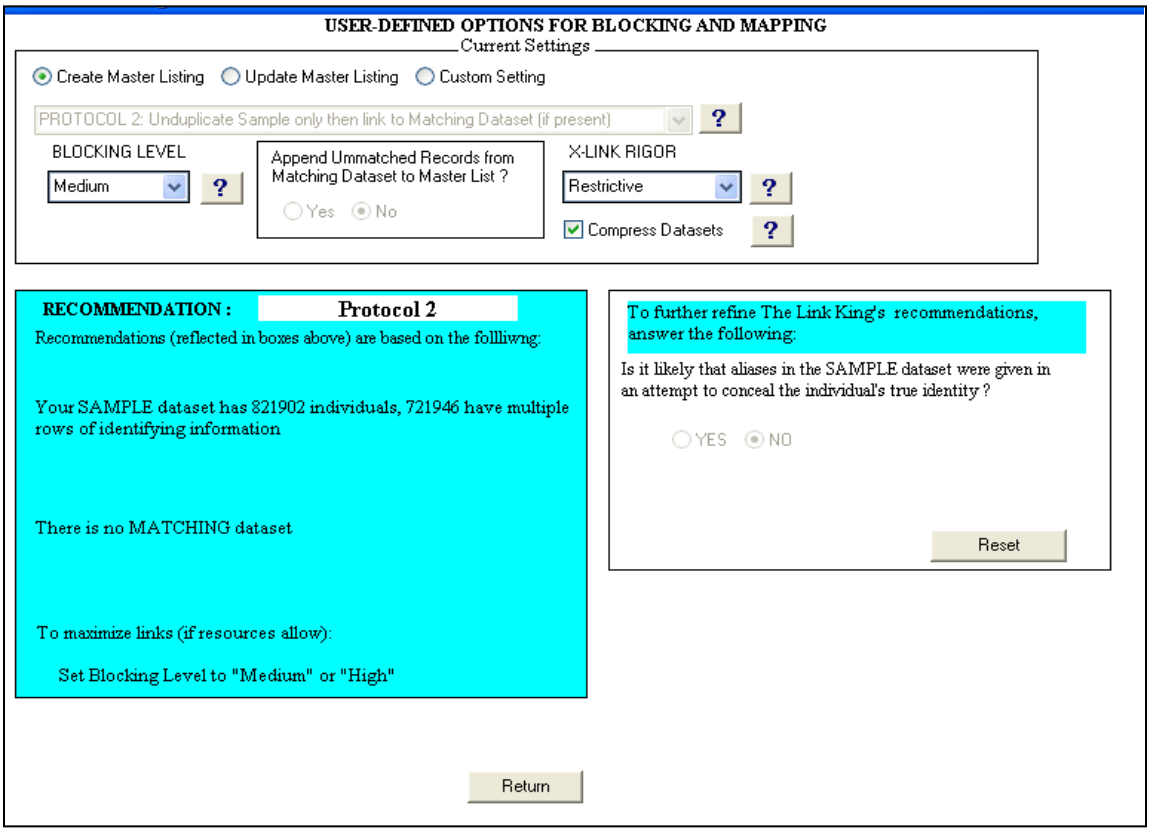
Blocking Level MEDIUM

The Medium Blocking Level setting creates an efficient mix between Link King's use of supplied Client_UIDs and its reliance on other matching criteria. It uses different mixes of first name, last name, gender, social security number, and date of birth to produce a *reduced dataset*, removing perfectly matched observations and clearly unmatched ones from the complete data

and keeping observations that have the potential of originating in the same individuals. It is this *reduced dataset* that goes through the detailed matching algorithms to produce the final results.

X-Link Rigor restrictive

This setting limits Link Kings cross-matching of observations that resemble newly matched observations. In our repeated program use, we noticed that the limited X-Linking setting reduces the number of erroneous matches by reducing reliance on the assumption that two observations that are not matched, but are similar to a third matched observation, should themselves be matched.



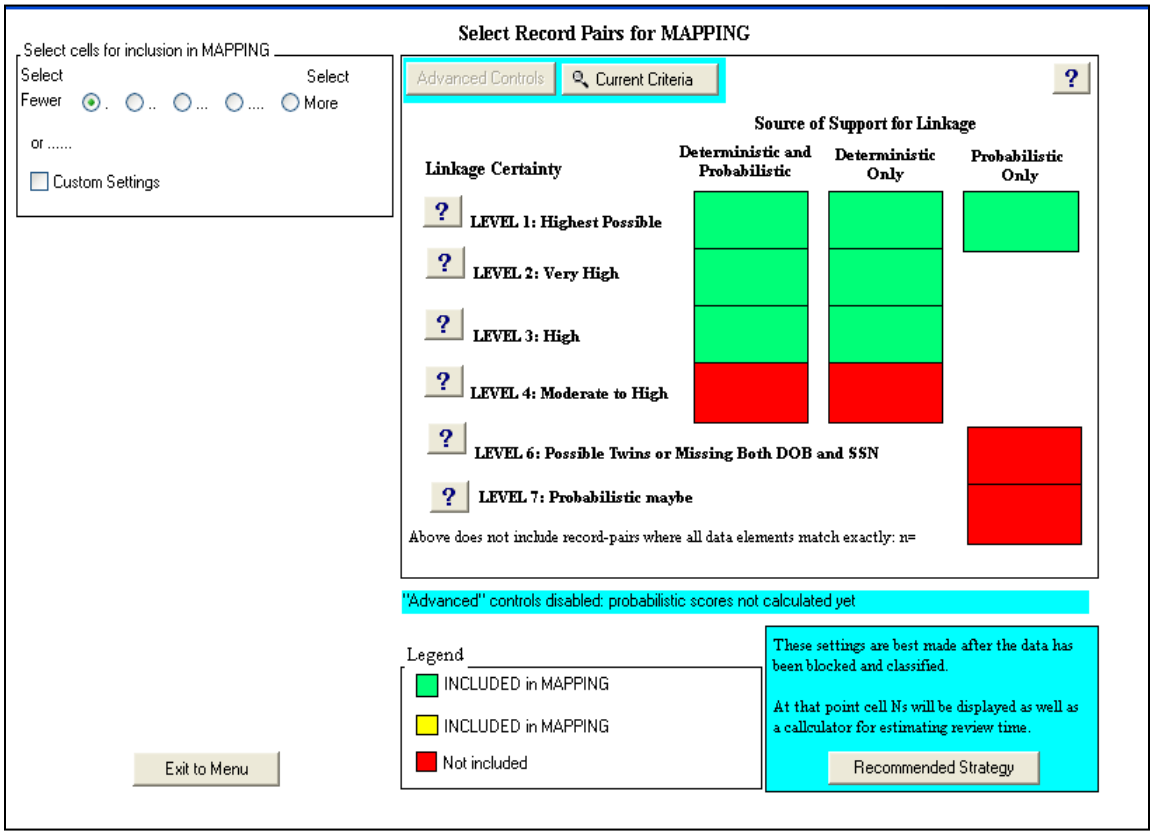
Observation mapping across linkage certainty levels

We decided on the most restrictive matching possible, as can be seen in the figure below in the "Select Fewer – Select More" frame on the top left. This setting requires high levels of both deterministic and probabilistic matching to allow for a new "UniqueID" variable to be created that matches previously disparate observations.[1] Setting this to a less restrictive level would result in individuals being more likely to be assigned the same ID erroneously and would require post-analysis quality assurance. This can be seen in the figure below on the right-hand frame, which allows for the incorporation of only level 1 through 3 matches (green squares) while eliminating all level 4 through 7 matches (red squares). The specific deterministic criteria that

[1] This new variable will be separate from the original UPI or Client_UID variable and will not replace or affect the original UPI values in any way. That is, the output dataset will contain two identifiers, the original one and a new one (we recommend using the new one).

allows for observations to be considered as level 1 through 3 matches are included in Appendix 1.3 of this report and can be seen to allow only observations that match well across a range of input variables to be mapped as originating from the same individual. Our own analysis improves on this matching even further by including additional variables such as county of birth and mother's first name.

An additional benefit of these settings is that they leave no need for post-analysis user input to further refine created matches. With a dataset this large, such procedures can require substantial time (estimated 150–200 hours) of direct user input (i.e., mouse and keyboard clicking and typing) and may result in some improvement in matching. The program will allow for any level of flexibility here. We have found a small number of appropriate matches in match levels as low as 7, but most observations within this class are either uncertain or inappropriate.



Similarly, in order to create as efficient a procedure as possible, we created Link King settings files that eliminated bad SSNs (such as "99902," the CalOMS-Tx code for "none or not applicable") as these could interfere with proper matching results. Placing bad SSN values in the settings assures that their continued adjustment will not be necessary.

Initially, the entire procedure required a number of steps including: (a) the proper importing of the raw CalOMS-Tx data into SAS, (b) the transferring of the data into Link King for processing, setting of Link King options, and handling of final Link King data procedures, which themselves

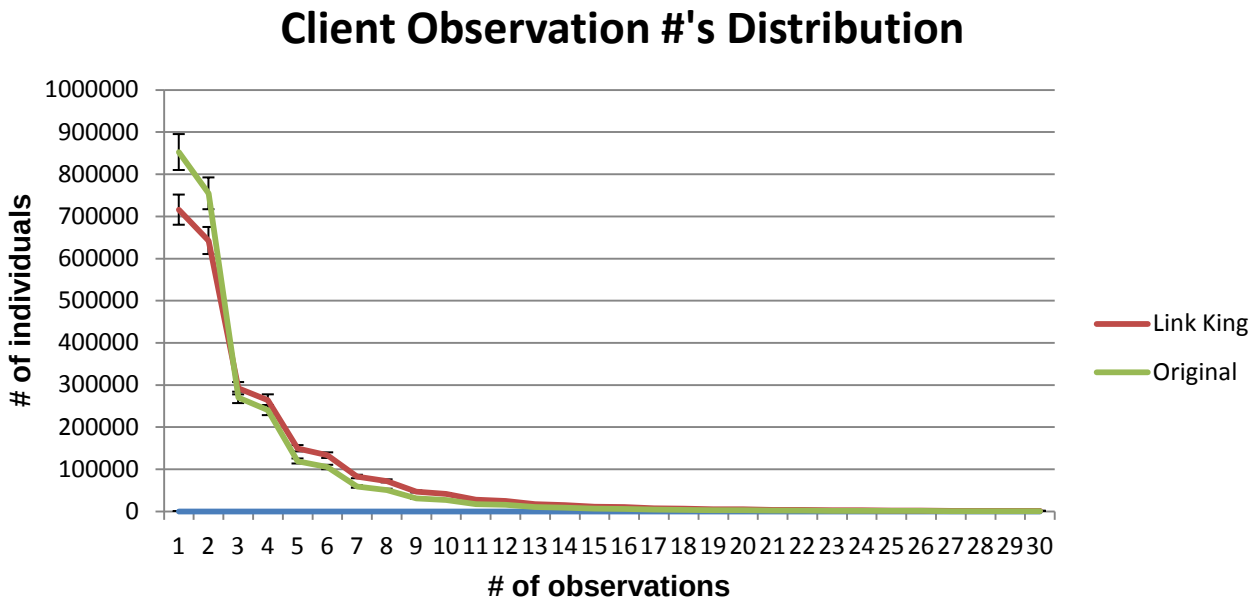
require several steps, and (c) the final preparation of Link King processed data in SAS for fixes, frequency analyses, flagging, etc.

As mentioned earlier, the final product of ISAP's work is the production of a single SAS program that completes all three above-mentioned steps by reading in the raw CalOMS-Tx data, running the Link King procedure, and then outputting the improved dataset after conducting small final fixes (removing new ID numbers that are flagged) and producing some diagnostic statistics (frequencies, distributions, etc.). All that is required of the ADP staff is the installation of the Link King program, the replacement of the standard settings file with one that we will provide, and the adjustment of the SAS program per ADP file placement standards so that the program can appropriately find the necessary files. We will be able to provide support for all aspects of this process.

IV. Findings

The procedures we employed resulted in a substantial number of originally "unique" Client_UID values being incorporated into corresponding individual new "UniqueID" values. Specifically, within the cumulative CalOMS-Tx file sent to us in March 2012, there were 135,100 such Client_UID values, resulting in 372,917 observations being combined. This number represents approximately 15% of the present CALOMS-Tx dataset, meaning the linkage program results in a substantial and notable improvement and a significant alteration in the distribution of Client_UID counts in the data. While nearly 33% (count = 822,215 observations) of the original ADP-supplied data (March 2012) was reported to have been produced by Client_UID values that appeared only once, the number dropped to 27.5% (686,929), a drop of 135,286 observations that were matched.

Effectively, this means that 135,286 treatment observations that were thought to have occurred to individuals who were only seen once in the system were corrected and matched to individuals with other treatment observations in the data. As the figure below shows, our procedures have



provided a rightward shift in the number of individuals with a specific number of observations. That is, individuals in the dataset are now seen to have a generally higher number of observations, an effect most apparent at the left side of the curve (i.e., 1–10 observations).

A secondary data problem of different individuals being placed under the same Client_UID may also be present in the data and was discussed in the previous report. Our team did some preliminary work to ascertain the prevalence of this problem, which is unfortunately much more difficult to quantify with certainty. At present, we believe that less than 1% of the data is experiencing such an issue, although these estimates have been generated using smaller subsets of the overall CalOMS-Tx data and our work on the present procedure made it clear that small subsets are not necessarily representative of the entire dataset in regard to data misidentification problems. Future work can include such efforts, if they are deemed important by ADP.

V. Conclusions and Recommendations

The data improvement procedure resulted in significant and substantial improvements in the matching of clients to identifier numbers, resolving 135,100 erroneously assigned UIDs and 372,917 related observations, or approximately 15% of the overall CALOMS-Tx dataset. The procedure has addressed a number of the originally reported problems with client identification by utilizing an external corrective procedure. Our findings suggest that the present identifier assignment work could be improved by incorporating social security numbers in the procedure, when these are available, as well as by including a probabilistic, rather than purely deterministic, process that will allow for partial matching on a number of the identification variables. Given current limitations in altering the live updating of identifiers in the system, it is recommended that future work assess for any biases that may be introduced by the present identifier assignment as well as any group differences between the corrected and uncorrected data sets (Campbell, 2008).

While the Link King can provide a substantial improvement in the accuracy of identifiers, the current identifiers could be improved in the interim by focusing on improving accuracy of reporting birth name, birth county, and mother's name identifiers. Providers may be unaware that these are critical variables in creating the current identifier. However, regular use of the Link King solution described in this chapter would ultimately ameliorate the need for this type of technical assistance.

References

Campbell, K. M. (2008). Impact of record linkage on performance indicators and multivariate relationships. *Journal of Substance Abuse Treatment, 36,* 110-117.

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Hser, Y., & Evans, E. (2008). Cross-system data linkage for treatment outcome evaluation: Lessons learned from the California Treatment Outcome Project. *Evaluation and Program Planning, 31,* 125-135.

Urada, D., Warda. U, Spear, S., et al. (2011). Performance Measurement, Monitoring, and Management. In: *Evaluation Services to Enhance the Data Management System in California Final Report*. Prepared for the Department of Alcohol and Drug Programs, California Health and Human Services Agency. Los Angeles: UCLA Integrated Substance Abuse Programs.

Appendix 1.1: CalOMS-Tx ID Program Installation and Use Instructions

Installation Instructions

Following are step-by-step instructions for the installation of all necessary files related to instituting the data improvement protocol outlined in this chapter. The package provided to ADP should contain the following files in a compressed collection that requires uncompression software for files to be extracted:

1. The Link King folder, including customized settings.
2. Batch processing settings file in SAS format (named "adpbatchsettings.sas7bdat").
3. The SAS program file.

Installation instructions:

1. Extract the Link King folder into the main directory of the C: drive of the computer used for the procedure (other placements will require some alteration of SAS code provided).
2. Create a folder for the Batch processing settings file and make note of its complete path, including name and extension.
3. Place the SAS program file in the same folder as the settings file above.
4. Open the SAS program in a SAS editor window and make the following adjustments:
    a. Adjust the libname statement at the beginning of the file to correspond to the expected location of converted raw CalOMS-Tx data file. This will be the file used by Link King, and its name and location will need to be adjusted later. You may alter the library name as well, but such a change would require altering the rest of the code to correspond to this new library name. We recommend avoiding libname changes.
    b. Insert the correct complete file path (including name and extension) for the raw CalOMS-Tx in Step I, based on ADP file placement protocol.
    c. Change the location of the three files in Step III (note that these are to be changed in two places in Step III as marked):
        i. The Sample file – as created by Step II – this is marked #1 below.
        ii. The settings file - as placed above – this is marked #2 below.
        iii. The desired output directory for the Link King procedure – this is marked #3 below.
    d. Run the program. The final dataset "LINKKING.CALOMS_X_FINAL" will be placed in the library defined in step "a" above.

Appendix 1.2: CalOMS-Tx ID Program

SAS Program code

```
libname linkking ' DEFINE LIBRARY WHERE DATA PREPPED FOR LINK KING IS TO BE PLACED';

/*****************************************************************/
/*THE FIRST STEP READS IN THE RAW DATA AND SOME LABELS       */
/*NOTE THAT FORMATTING IS NOW COMPLETED AUTOMATICALLY  */
/*****************************************************************/

options obs=max;

proc import out = datastep1
                file = "PLACE CORRECT PATH TO RAW FILE HERE"
                DBMS=DLM replace;
                DELIMITER ='|';
                GETNAMES=YES;
                DATAROW=2;
                GUESSINGROWS=20000;
RUN;

/*****************************************************************/
/*THE SECOND STEP RENAMES AND FORMATS VARIABLES AS NEEDED*/
/*BY THE LINK KING PROGRAM - PLEASE ADJUST FILE PATH                */
/*****************************************************************/

data linkking.caloms; set datastep1;   /*ADJUST FILENAME HERE AS NEEDED – NOTE CHANGES FOR BELOW*/
Client_Identifier= put(client_uid,10.);
Client_First_Name= birth_first_name;
Client_Last_Name= birth_last_name;
Client_Social_Security_Number=put(ssn,9.);
Client_Birthdate= date_of_birth;
Client_Gender = sex;
Client_Middle_Name=          mothers_first_name;
If Client_Race NE . then Client_Race= input(race_all,best2.);
client_flex = put(birth_county_code,2.);

format
Client_Birthdate mmddyy10.;
```

```
If client_gender='Female' then client_gender = 'F';
If client_gender='Male' then client_gender = 'M';
If client_gender NE 'Male' and client_gender NE 'Female' then client_gender = '';
if client_race in (3 4) then client_race=99;
if client_race in (5:15) then client_race=4;
if client_race in (16:20) then client_race=7;
if client_race =99 then client_race=5;

run;


proc contents data=linkking.caloms;
run;

/*****************************************************************/
/*THE THIRD STEP BATCH RUNS THE LINK KING PROGRAM USING     */
/*THE DATASET CREATED ABOVE - ADJUST PATHS APPROPRIATELY */
/*****************************************************************/



/* Data / Program Locations:
Link King Program Files:      "C:\Link King"          (this is the default location)
Sample Dataset:                     "#1 - COMPLETE FILE PATH FOR THE DATA GENERATED IN STEP II"
Matching Dataset:             ""
Linkage Settings:             "#2 - COMPLETE FILE PATH FOR THE FOLLOWING FILE - adpbatchsettings.sas7bdat"
Linkage Output                      "#3 - DIRECTORY FOR LINK KING OUTPUT";
*/
%let custom_name_len=3;
%let random_yn=1;
%let batch_cert=2;
%let hash_yes=0;
%let INTERNAL=OFF;

*parse file locations into components;
DATA FILE_LOCS;
batch_sample="COPY PATH #1 FROM ABOVE";
```

```
batch_matching="";
batch_settings="COPY PATH #2 FROM ABOVE";
batch_match=0;

BATCH_S_DSET=COMPRESS(SCAN(BATCH_SAMPLE,-1,"\"));
BINPUT_S=trim(left(TRANWRD(BATCH_SAMPLE,COMPRESS("\"||BATCH_S_DSET),"")));
BATCH_S_DSET=TRANWRD(upcase(BATCH_S_DSET),upcase('.sas7bdat'),");

if compress(batch_matching) ne " then do;

 BATCH_M_DSET=COMPRESS(SCAN(batch_matching,-1,"\"));
 IF BATCH_M_DSET NE " THEN batch_match=1;
 BINPUT_M=trim(left(TRANWRD(BATCH_matching,COMPRESS("\"||BATCH_M_DSET),"")));
 BATCH_M_DSET=TRANWRD(upcase(BATCH_M_DSET),upcase('.sas7bdat'),");
end;

batch_settings=trim(left(TRANWRD(upcase(batch_settings),".SAS7BDAT","")));
BATCH_SET_DSET=COMPRESS(SCAN(batch_settings,-1,"\"));
BINPUT_SET=trim(left(TRANWRD(batch_settings,COMPRESS("\"||BATCH_SET_DSET),"")));
no_name_cutpoint=.2;
RUN;
proc sql noprint;
select batch_match into : batch_match
from file_locs;

*set macro variable required by The Link King;
%macro set_macros;
%global BATCH_S_DSET BINPUT_S BATCH_m_DSET BINPUT_m BATCH_SET_DSET BINPUT_SET no_name_cutpoint;
PROC SQL NOPRINT;
SELECT BATCH_S_DSET, BINPUT_S,
      %if &batch_match=1 %then %do;
       BATCH_M_DSET, BINPUT_M,
      %end;
      BATCH_SET_DSET, BINPUT_SET,
      no_name_cutpoint
      INTO
      : BATCH_S_DSET, : BINPUT_S,
      %if &batch_match=1 %then %do;
```

```
       : BATCH_m_DSET, : BINPUT_m,
      %end;
      : BATCH_SET_DSET, : BINPUT_SET,
      : no_name_cutpoint
FROM FILE_LOCS;
%if &batch_match=1 %then %do;
 libname binput_m "&BINPUT_M";
%end;
%mend set_macros;
%set_macros;

PROC DATASETS NOLIST LIBRARY=WORK;
DELETE FILE_LOCS; RUN;

*assign required filename and libnames, import program files, unduplication/linkage code;
libname undup "C:\Link King";
libname nickname "C:\Link King";
filename inclib "C:\Link King";
%SYMDEL LK_LOC;
%Inc INCLIB(#KMC_PROGRAM_SET_UP.sas);
%CLEAR_MACRO_VARS;
DATA WEIGHT_SETTINGS;
SET NICKNAME.WEIGHT_SETTINGS;
RUN;


%macro sample_code;
%mend sample_code;
%macro matching_code;
%mend matching_code;

libname settings "&BINPUT_SET";
data settings;
set settings.&BATCH_SET_DSET;
block_level=1+1;
run;
libname binput_S "&BINPUT_S";
libname savedata "COPY #3 FROM ABOVE";
```

```
* %batch_import;
* %batch_link;

%macro batch_import;

%trace_on;

data sample;

set binput_s.&batch_s_dset;

%sample_code;

Keep Client_Gender Client_Identifier client_birthdate client_first_name client_last_name client_middle_name

client_social_security_number client_flex;

Proc contents;

run;

;

%verify_data_format2(sample);

%if %sysfunc(exist(sample)) %then %do;

 data sample;

 set sample;

 sample=1;

client_identifier=trim(left(client_identifier));

 if sample=1 and uniqueid ne . then temp_cid='sample_'||left(uniqueid);

 else temp_cid=client_identifier;
```

```
 run;
proc sql noprint; select count(*) into: sample_n from sample;
%end;
%if &batch_match=1 %then %do;
 %trace_on;
data matching;
 set binput_m.&batch_m_dset ;
 %matching_code;
run;
 ;
%verify_data_format2(matching);

 %if %sysfunc(exist(matching)) %then %do;
  data matching;
  set matching;
  sample=.;
  client_identifier=trim(left(client_identifier));
  if sample=. and uniqueid ne . then temp_cid='match_'||left(uniqueid);
  else temp_cid=client_identifier;
```

```
  run;
  proc sql noprint; select count(*) into: matching_n from matching;
 %end;
%end;
%let error=0;
%if %sysfunc(exist(sample))=0 %then %let error=1;
%if &batch_match=1 %then %do;
%if %sysfunc(exist(matching))=0 %then %let error=1;
%end;
%if &error=0 %then %do;
%add_missing_Vars;
 %batch_certainty;
 %let name_cutpoint=.3;
 proc sql noprint;
 select undup_protocol into: undup_protocol from settings;
 proc sql noprint;
 select append_master into: append_master from settings;
proc sql noprint;
 select update_master into: update_master from settings;
```

```
proc sql noprint;
 select sample_1a into: sample_1a from settings;
 proc sql noprint;
 select matching_2a into: matching_2a from settings;
 proc sql noprint;
 select defaults into: defaults from settings;
proc sql noprint;
 select del_alias3 into: del_alias3 from settings;
 proc sql noprint;
 select del_alias4 into: del_alias4 from settings;
 proc sql noprint;
 select consolidate into: consolidate from settings;
 proc sql noprint;
 select hurry into: hurry from settings;
 quit;
proc sql noprint;
 select ssn_size into: ssn_size from settings;
proc sql noprint;
 select name_cutpoint into: name_cutpoint from settings;
```

```
proc sql noprint;
 select s_true_alias into: s_true_alias from settings;
proc sql noprint;
 select m_true_alias into: m_true_alias from settings;
proc sql noprint;
 select s_flex1 into: s_flex1 from settings;
%let user_settings=2;
%end;
%put  ERROR CODE &error ;
%mend batch_import;
%batch_import;


%macro batch_link;
%let s_flex1=1;
%SYMDEL BATCH_S_DSET BINPUT_S BATCH_m_DSET BINPUT_m BINPUT_SET BATCH_SET_DSET;
%trace_off;
%delete_plots(1);
 proc datasets library=work nolist;
```

```
 delete blocked blocked2  best_match best_match2 Duplicate_record_report
 compression_map compression_mods  compression_report pre_block pre_block_flex
 final_link_master final_links_only random_both random_det_only random_prob_only verify_flex;
 run;
%block_prep;
 %BLOCK(pre_block,BLOCKED);
 %EVALUATE(BLOCKED2, BLOCKED2);
 %PROB_CLASS(BLOCKED2,BLOCKED2);
 %kmc_class(blocked2);
 %best_match;
 %unduplication_protocols;
 options compress=yes;
%let data_compress=1;
%data_copy(BACKUP);
 %trace_off;
 %symdel nobs sample_n matching_n sample_dups matching_dups sample_1a matching_2a s_flex1
 SSN_SIZE NAME_CUTPOINT BLOCK_LEVEL  xlink_level undup_protocol LINK_PREF2
 KEEP1 KEEP2 KEEP3 KEEP4 KEEP5 KEEP6 KEEP7 KEEP8 KEEP9 KEEP10 KEEP11 KEEP_CRIT REVIEW_CRIT USER_CODED
 FILTER1 FILTER2 FILTER3 FILTER4
```

```
 CELL_N1 CELL_N2 CELL_N3 CELL_N4 CELL_N5 CELL_N6 CELL_N7 CELL_N8 CELL_N9 CELL_N10 CELL_N11
 sample_dups_final matching_dups_final samp_dup_est matching_dup_est
 init_BLOCK_LEVEL init_undup_protocol init_xlink_level
defaults
 has_unique
 append_master update_master
 pct_compressed num_compressed product_sort
 n_dups_deleted novalssn
 DETCRIT4 SQLOBS FN_LEN FOUND SQLOOPS REVIEW_ RELDOB_ DSETNAME SOURCE MAID_LEN MAID_LEN2 TESTING_KMC
 DUP_PCT INPUT_DSET FORMAT_TYPE MN_LEN2 MONITOR LN_LEN2 MN_LEN PROB_STOP ASM_ D_ _TEMPORARY_
 LN_LEN FINAL_UPDATE_PENDING MN2_LEN NNAMES_ CI_LEN2 DETCRIT3 WTITERS_ NEW_XLINK CI_LEN DETCRIT_
 DETCRIT2 CONSOLIDATE CID_LEN SQLXOBS SQLRC LOWER_ DETCRIT1 COLLISION_SOLUTION RUNTYP_ UPPER_
 DETCRIT6 DEL_ALIAS3 DEL_ALIAS4 LIBLOC DETCRIT5 USER_SETTINGS DATE_FORMAT FN_len2 monitor
 hist_min hist_max hist_interval rev_min rev_max and_or score_crit advanced_settings hurry batch_s_dset
 batch_m_dset;
 %trace_on;
%mend batch_link;
%batch_link;
/*************************************************************/
/*THE FOURTH STEP MERGES THE NEW IDENTIFIER - UNIQUEID    */
```

```
/*WITH THE ORIGINAL DATASET USING THE ADP CLIENT_UID #S  */
/*************************************************************/
DATA FINAL_LINK_MASTER;SET FINAL_LINK_MASTER;
CLIENT_UID= input(CLIENT_IDENTIFIER,best10.);
RUN;

PROC SORT DATA= FINAL_LINK_MASTER; BY CLIENT_UID; RUN;
PROC SORT DATA= LINKKING.CALOMS; BY CLIENT_UID; RUN;


DATA LINKKING.CALOMS_X;
MERGE LINKKING.CALOMS FINAL_LINK_MASTER (KEEP = CERTAINTY UNIQUEID CLIENT_UID);
BY CLIENT_UID;
RUN;

/*************************************************************/
/*THE FIFTH STEP WILL PROVIDE SOME FREQUENCIES FOR MATCHES*/
/*AND CREATE VARIABLES TO IDENTIFY POSSIBLE PROBLEMS      */
/*************************************************************/

proc sort data =  LINKKING.CALOMS_X; by uniqueid client_uid; run;

data counters; set LINKKING.CALOMS_X;
uniqueid_count+1;
by uniqueid;
if first.uniqueid then uniqueid_count =1;
run;

proc sort data=counters;
by client_uid;
run;

data counters2; set counters;
clientuid_count+1;
by client_uid;
if first.client_uid then clientuid_count =1;
run;
```

```
proc freq data = counters2 ;
tables uniqueid_count clientuid_count;
run;

/*the step below will create a dataset that flags all LinkKing created observations with more than 600 repeats*/

data outliers; set counters2 (keep = uniqueid uniqueid_count);

if uniqueid_count ge 600 then flag=1;
if flag=1 then output outliers;
run;

proc sort data=outliers nodupkey;
by uniqueid;
run;

/*now we'll flag all the observations in the full data that have "extreme" repeat numbers*/
proc sort data=counters2;
by uniqueid;
run;
data LINKKING.flagged; merge outliers counters2; by uniqueid;
if flag=1 then uniqueid = CLIENT_IDENTIFIER * -1 ;
run;

proc print data=LINKKING.flagged;
var uniqueid client_uid uniqueid_count sex date_of_birth current_first_name ssn;
where flag=1;
run;

/*we're going to look at the full data and assess how many records were linked using LinkKing*/
data linked; set LINKKING.flagged;

linked=1;
if uniqueid=lag(uniqueid) and client_uid ne lag(client_uid) then output linked;
run;

data linked1; set linked (keep = uniqueid client_uid linked);
run;
```

```
/*we're now going to combine the linked dataset with the complete data,
flagging as "linked=1" any uniqueid by client_uid combination that was linked */
proc sort data=LINKKING.flagged; by uniqueid client_uid; run;

data LINKKING.CALOMS_X_FINAL; merge LINKKING.flagged linked1; by uniqueid client_uid;       /*this is the full dataset*/
run;

data LINKKING.linkkinged_only; set linkking.CALOMS_X_FINAL ; /*this data contains only the “linked” observations*/
if linked =1 then output LINKKING.linkkinged_only;
run;
```

Appendix 1.3: Specification of Deterministic Classification Criteria for CalOMS-Tx ID Program

Specification of Deterministic Classification Criteria – Level 1 through 3

TABLE 1
Criteria for Classifying Record-pairs at Certainty Level 1"

Criteria #	SEX	First Name	Last Name	Middle Name	SSN	DOB
1		EXACT SAMHSA>.75 or SPEDIS<50 or NICKNAME or EMBEDDED	EXACT SAMHSA>.75 or SPEDIS<50 or NICKNAME or EMBEDDED	Full Middle Name (if present) EXACT SAMHSA>.75 or SPEDIS<50 or NICKNAME or EMBEDDED OR Middle Initial (if full middle name not present) EXACT	EXACT	MISSING
2					MISSING	EXACT
3					7+ positional matches	SIMILAR
4				Not considered NO MATCH allowed	EXACT	EXACT
5		EXACT or NICKNAME	EXACT or NICKNAME	MISSING	EXACT	EXACT or SIMILAR
6					7+ positional matches	EXACT
7		EXACT SAMHSA>.75 or SPEDIS<50 or NICKNAME or EMBEDDED	EXACT SAMHSA>.75 or SPEDIS<50 or NICKNAME or EMBEDDED	MISSING	EXACT	EXACT
						.
8		EXACT SAMHSA>.75 or SPEDIS<50 or NICKNAME or EMBEDDED or PHONETIC MATCH or Share 5 character string or SWAPPED NAME	EXACT or NICKNAME	Full Middle Name (if present) EXACT SAMHSA>.75 or SPEDIS<50 or NICKNAME or EMBEDDED or PHONETIC MATCH or Share 5 character string or SWAPPED NAME Middle Initial (if full middle name not present) EXACT		.
						.
9		EXACT or NICKNAME	EXACT SAMHSA>.75 or SPEDIS<50 or NICKNAME or EMBEDDED or PHONETIC MATCH			

TABLE 1 Criteria for Classifying Record-pairs at Certainty Level 1”						
Criteria #	SEX	First Name	Last Name	Middle Name	SSN	DOB
			or Share 5 character string or SWAPPED NAME			
10	Female	EXACT SAMHSA>.75 or SPEDIS<50 or NICKNAME or EMBEDDED				
			Not considered NO MATCH allowed	Full Middle Name (if present) EXACT SAMHSA>.75 or SPEDIS<50 or NICKNAME or EMBEDDED OR Middle Initial (if full middle name not present) EXACT		
11		SWAPPED WITH LAST NAME		MISSING OR Full Middle Name (if present) EXACT OR Middle Initial (if full middle name not present) EXACT		
11		SWAPPED WITH MIDDLE NAME	EXACT	SWAPPED WITH FIRST NAME		
12	Female		Not considered NO MATCH allowed			
13		EXACT	SWAPPED WITH LAST NAME	SWAPPED WITH MIDDLE NAME		

TABLE 2 Criteria for Classifying Record-pairs at Certainty Level 2”						
Criteria #	SEX	First Name	Last Name	Middle Name	SSN	DOB
1		EXACT SAMHSA>.75 or SPEDIS<50 or NICKNAME	EXACT or NICKNAME	MISSING	MISSING	EXACT
2		EXACT or NICKNAME	EXACT SAMHSA>.75 or SPEDIS<50 or NICKNAME		EXACT	MISSING
4		EXACT or NICKNAME	EXACT or NICKNAME	Full Middle Name (if present) EXACT or NICKNAME	Not considered NO MATCH allowed	EXACT
5				OR Middle Initial (if full middle name not present) EXACT	EXACT	Not considered NO MATCH allowed
6		EXACT	EXACT	MISSING OR Full Middle Name (if present) EXACT OR Middle Initial (if full middle name not present) EXACT	7+ positional matches	SIMILAR
7		SWAPPED WITH LAST NAME	MISSING Or EXACT	SWAPPED WITH FIRST NAME	EXACT	SIMILAR
8					7+ positional matches	EXACT
9		SWAPPED WITH MIDDLE NAME	SWAPPED WITH FIRST NAME	EXACT	EXACT	SIMILAR
10					7+ positional matches	EXACT
11		EXACT	SWAPPED WITH LAST NAME	SWAPPED WITH MIDDLE NAME	EXACT	SIMILAR
12					7+ positional matches	EXACT

TABLE 3
Criteria for Classifying Record-pairs at Certainty Level 3

Criteria #	Name rarity	SEX	First Name	Last Name	Middle Name	SSN	DOB
1	Name_rarity le[9] name_cutpoint-0.1	n/a	EXACT or NICKNAME	EXACT or NICKNAME	MISSING	MISSING	SIMILAR[10]
2	Name_rarity le name_cutpoint	n/a			Middle Initial (if full middle name not present) EXACT		
3	Name_rarity le name_cutpoint+.1	n/a			Full Middle Name (if present) (if present) EXACT or NICKNAME		
4	Name_rarity le[11] name_cutpoint-0.1	n/a			MISSING	8 or more positional matches	MISSING
5	Name_rarity le name_cutpoint	n/a			Middle Initial (if full middle name not present) EXACT		
6	Name_rarity le name_cutpoint+.1	n/a			Full Middle Name (if present) EXACT or NICKNAME		
7	n/a	n/a	EXACT, or SAMHSA>.75 or SPEDIS<50 or NICKNAME	EXACT, or SAMHSA>.75 or SPEDIS<50 or NICKNAME	Full Middle Name (if present) EXACT, or SAMHSA>.75 or SPEDIS<50 or NICKNAME	6 or more positional matches	SIMILAR[1]
8	n/a	n/a			Middle Initial (if full middle name not present) EXACT	7 or more positional matches	
9	n/a	n/a			MISSING	EXACT	EXACT or SIMILAR[1]
						7+ positional matches	EXACT

[9] Le = "less than or equal to"
[10] Similar includes EXACT matches, 1 set of transposed elements, and 2 elements positional match while third element differs
[11] Le = "less than or equal to"

TABLE 3
Criteria for Classifying Record-pairs at Certainty Level 3

Criteria #	Name rarity	SEX	First Name	Last Name	Middle Name	SSN	DOB
10			EXACT or NICKNAME	EXACT or NICKNAME	MISSING or Full Middle Name (if present) EXACT or NICKNAME OR Middle Initial (if full middle name not present) EXACT	EXACT	MISSING
						MISSING	EXACT
11	n/a	Female	EXACT or NICKNAME	Not considered NO MATCH allowed	MISSING OR Full Middle Name (if present) EXACT SAMHSA>. 75 or SPEDIS<50 or NICKNAME or EMBEDDED or PHONETIC MATCH or Share 5 character string OR Middle Initial (if full middle name not present) EXACT	EXACT	EXACT or SIMILAR[1]
12	n/a					7+ positional matches	EXACT
13			EXACT		Full Middle Name EXACT	MISSING	EXACT
14						EXACT	MISSING

[9] Le = “less than or equal to”
[10] Similar includes EXACT matches, 1 set of transposed elements, and 2 elements positional match while third element differs
[11] Le = “less than or equal to”

Chapter 2: Integration of Substance Abuse Services, Mental Health Services, and Primary Care

Valerie Pearce Antonini, M.P.H., Brandy T. Oeser, M.P.H., and Richard A. Rawson, Ph.D.

UCLA gathered information on efforts to integrate substance abuse services, mental health services, and primary care around the nation from literature searches, interviews, conferences, webinars, learning collaboratives, and studies of county pilot-integration initiatives. A great deal of work remains ahead across the realms of policy, research, training, and technical assistance. Recommendations include facilitating referral to treatment, revising the Drug Medi-Cal program, addressing SUD shortcomings in reimbursement policies and incentive programs, facilitating preparations for the "medicalization" of the field, planning to address expected challenges with homeless and criminal justice populations, and continuing involvement in collaborative efforts, pilot projects, research, training, and technical assistance.

I. Introduction

The substance use disorder (SUD) service system in the United States is expected to undergo substantial change in the way services are delivered as a result of the Patient Protection and Affordable Care Act of 2010 and the Health Care and Education Reconciliation Act of 2010—together referred to as "The Affordable Care Act" (ACA; Halvorson, 2010; O'Brien, 2011). One important change anticipated within health care reform (HCR) is that SUD and mental health (MH) services will become more coordinated and integrated with primary care (PC; Institute of Medicine, 2006). There is an increasing body of evidence that primary care integration results in higher engagement, retention, and treatment compliance (Barrowclough et al., 2001; Drake et al., 1998; Hellerstein, Rosenthal & Miner, 1995; Herman et al., 1997; Linehan et al., 1999); superior health outcomes (Parthasarathy et al., 2003; Weisner et al., 2001); and reduced medical costs (Pallak et al., 1994; Parthasarathy et al., 2003; Simon et al., 2007). It is anticipated that HCR will result in (among other things) modifications in how services will be funded, the type of services delivered, the facilities/venues where they are delivered, the individuals who will receive the services, the work force that delivers the services, how services are measured, and how service benefits are evaluated.

In California, it is estimated that in 2014 an additional 4.5 million Californians will have health insurance, and, as a result, a substantially different service system will be needed to provide alcohol and other drug care, including prevention, treatment, and recovery services (California Department of Alcohol and Drug Programs, 2010). California's Department of Alcohol and Drug Programs (ADP) has initiated a number of activities to understand and prepare for the impact of HCR. Based on outcomes from the California Forum on Integration (Padwa et al., 2012) as well as through surveys and interviews with stakeholders to identify existing efforts to integrate SUD services into primary care, it became clear that counties were in need of ongoing training and technical assistance on multiple topics related to integration (Pearce et al., 2011). In order to meet the need for further assistance on integration, ADP and researchers from Integrated Substance Abuse Programs (ISAP) of the University of California, Los Angeles (UCLA),

identified specific objectives for Year 3 of the EnCAL contract to continue the preparation for integrating SUD services with primary care and mental health services.

II. Objectives

The objectives identified for Year 3 of the EnCAL contract incorporate some topics that are continuing from the previous year's work, as well as new topics that have evolved. Objectives under this domain are as follows:

1) Continue coordinating and facilitating the Integration Learning Collaborative with counties and other key stakeholders.
2) Continue ISAP's Integration Pilots/Case Studies with specific counties that are in the process of implementing behavioral health (BH) integration initiatives within the health care system.
3) Provide ongoing training and/or technical assistance at the county level specifically around the piloted BH Integration initiatives as well as to those with conducting minimal integration activities.
4) Provide ongoing technical assistance at the state level around national trends and activities around BH integration.
5) Develop strategic planning principles to guide the future development of an integrated drug treatment delivery system in California under health care reform.
6) Coordinate with the California Institute for Mental Health (CiMH) to stay abreast of parallel integration efforts being performed on the mental health side and seek opportunities to achieve synergy and minimize redundancy.

III. Methods and Workplan

During fiscal year 2011–2012, UCLA addressed the above listed objectives using multiple processes. Specifically, UCLA (1) conducted extensive literature searches and corresponded with national experts in the field of substance abuse, mental health, health policy, service billing/financing, and implementation research, (2) attended several conferences and webinars on integration and healthcare reform (see full list in Appendix 2.1), (3) facilitated an ongoing California Integration Learning Collaborative (see description of the 11 sessions conducted within this fiscal year in section IV.B), (4) collected brief survey data on integration activities around the state (see copy of survey in Appendix 2.2), and (5) conducted in-depth reviews of counties' piloting integration initiatives in the following counties: Butte, Kern, Los Angeles, Merced, Orange, Riverside, San Bernardino, San Diego, and Santa Clara. (See full descriptions in section IV.B2).

In an effort to facilitate information dissemination to county administrators and ADP, UCLA maintains an information resource website to house "must see" literature, presentations, and reports from the national effort (http://www.uclaisap.org/Affordable-Care-Act/index.html). This

site also houses information collected from and disseminated to the Learning Collaborative to assist in information-sharing at the county level.

Training and technical assistance was also provided at the county and state levels over the course of the year. These efforts were focused on the following high priority topics, as determined by ADP:

- Integration strategies
- Working in the health care system
- Screening, brief intervention, and referral to treatment (SBIRT)
- Medication-assisted treatment and evidence-based practices
- Motivational interviewing
- The prescription drug abuse problem

IV. Findings

Findings are organized within the following sections of this report:

A. Integration: An update from the field
B. Learning collaborative and county case/pilot descriptions
   B1. Topics
   B2. County case/pilot descriptions
C. California Institute for Mental Health (CiMH) collaborations
D. Strategic planning principles
E. Training and technical assistance

A. Integration: An Update from the Field

The integration of SUD and MH services into PC has expanded rapidly in the last couple of years as the field prepares for the implementation of the ACA in 2014. During this past year of work, UCLA has stayed abreast of hot topics being discussed around the country on integration and has investigated issues evolving locally in the field. After consulting with integration experts, reviewing the literature, and participating in numerous integration-related webinars, we provide the below update from the field addressing the following topics:

- Research on integrated care
- Integration models/strategies
- Special population issues
- Information technology/privacy regulations
- Financing/billing practices
- Workforce

Research on Integrated Care
Evidence from the Field

Substance Use Disorders are Common and Costly

Risky substance use and addiction account for 5.4% of the total burden of disease worldwide (WHO, 2010), and are among the most costly health problems in the United States. Beyond the social, economic, and legal costs associated with alcohol and drug use, the medical consequences of substance abuse are enormous. Frequent drinking and drug use lead to myriad health problems because of psychoactive substances' toxic effects (Druss, 2006). Consequently, substance abuse is associated with increased risk for pregnancy complications, cancer, and gastrointestinal, cardiovascular, pulmonary, renal, hematological, gynecological, and metabolic problems (National Center on Addiction and Substance Abuse [NCASA], 2012; Parthasarathy, 2003; Stein, 1999). Overall, substance use contributes to over 70 conditions that require medical care, and over half of individuals with substance use disorders have another health condition as well (NCASA, 2012). Chronic and serious medical conditions such as arthritis, asthma, hypertension, and ischemic heart disease are twice as prevalent among patients with substance use disorders (SUD) as in the rest of the patient population (Mertens, 2003).

Chronic substance abuse also has negative impacts on mental health and behavior. Patients with SUD are over 7 times as likely as patients without SUD to meet diagnostic criteria for anxiety disorders and over 10 times as likely to meet criteria for depression (Mertens, 2003). As many as 70% of individuals in treatment for SUD have had a mental illness at some time in their life, and approximately 50% of them have a diagnosable mental health disorder at the time they enter treatment (Flynn, 2008). The risk-taking behavior and needle sharing associated with many forms of substance use also put individuals with SUD at increased risk, particularly for communicable diseases. Nationally, 30–40% of injection drug users are infected with HIV, and 60–90% have hepatitis (Clark, 2010).

Because of the reduced inhibitions and increased aggression associated with substance use, SUDs also increase risk for serious injury. Individuals with substance abuse or dependence utilize emergency rooms (ERs) approximately 3 times as often as people who do not have these conditions (Parthasarathy, 2001), and chronic drug use increases the probability of ER utilization by 30% (McGeary & French, 2000). In California, 10% of people who enter SUD treatment have utilized the ER at least once in the previous 30 days, and 4% have stayed overnight in a hospital (CDHCS, 2012).

Beyond being at increased risk for other serious health problems, individuals with SUDs make up a disproportionate share of the patient population that is affected by chronic disease and disability. Though approximately 9% of the non-institutionalized population nationwide meets diagnostic criteria for SUD (Substance Abuse and Mental Health Services Administration [SAMHSA], 2010), almost 13% of individuals who meet disability criteria for Medicaid have SUDs (Boyd, 2010). Among recipients of publicly funded health care, the associations between SUDs and medical conditions are particularly strong—16.8% of enrollees with hypertension have SUDs, as do 13.7% of enrollees with diabetes, 20.1% of enrollees with coronary heart disease, 21.8% of enrollees with congestive heart failure, and 25.7% of enrollees with lung disorders (Boyd, 2010). Nearly 40% of HIV-positive Californians have risk factors related to drug use, as do 18% of Californians with tuberculosis (CDAP, 2012). SUDs are also overrepresented among the recipients of costly ER and inpatient services. Individuals with SUDs visit the ER 3 times as frequently as those without SUDs, and on average, they spend over 4 times as many days in the hospital (Parthsarathy, 2001).

Substance abuse is a major driver of health costs, especially for Medicaid.
Nationally, over $25 billion is spent treating the medical consequences of drug and alcohol use each year (Miller & Hendrie, 2008), and the health-related costs of alcohol and drug abuse are rising over 5% annually (ONCDP, 2004). Individuals with SUDs incur between 2 (Parthasrathy 2001) and 3 (McAdam-Marx et al., 2010; Thomas, 2005) times the total medical expenses of people who do not have SUDs.

For patients with chronic health conditions, SUDs significantly increase the cost of care. Among Medicaid enrollees with disabilities, individuals who have hypertension are hospitalized 4 times as often and incur over 1.5 times the total health costs if they have SUDs; enrollees with diabetes are hospitalized 4 times as often and incur nearly twice the health care costs if they have an SUD; enrollees with coronary heart disease are hospitalized 3 times as often and incur double the health care costs if they have an SUD; enrollees with congestive heart failure are hospitalized twice as often and incur nearly double the health care costs if they have an SUD; and enrollees with lung disorders are hospitalized almost 3 times as often and incur nearly double the total health care costs if they have an SUD (Boyd, 2010). Individuals with mental health disorders also have significantly higher health care costs if they have a co-occurring SUD, and over half of their excess costs are for the treatment of physical conditions (Clark, 2009).

ER and hospital utilizations, in particular, are major drivers of health care costs related to SUDs. As many as 31% of ER utilizers test positive for drug use upon admission (Rockett et al., 2003), and over 30% screen positive for alcohol abuse or dependence (D'Onofrio & Degutis, 2002). In Los Angeles County trauma centers, 24% of utilizers meet diagnostic criteria for alcohol abuse, and 15% report having used an illegal drug in the previous 12 months (Ramchand et al., 2009). Nationwide, substance abuse is a primary or secondary diagnosis in 4.6% of ER visits (Owens et al., 2010), and over 10% of community hospital stays by individuals under 65 involve individuals with SUDs (Owens et al., 2007).

The financial costs of caring for patients with an SUD that has gone unaddressed can be extraordinary high. Recent analyses of SUD treatment in Washington State found that General Assistance recipients with an SUD who did not receive SUD treatment incurred medical costs that were 71.2% greater than enrollees who did receive SUD treatment services; among Medicaid enrollees with disabilities, SUD treatment had an even greater impact, as per member per month (PMPM) costs were over twice as high for enrollees who needed SUD treatment but did not receive it as for enrollees who did get treatment (Wickizer et al., 2012). In a recent study of frequent users of health care services in California, researchers found that a group of just 13 individuals who eventually died from SUD-related complications accumulated nearly $4.9 million in ER and inpatient charges during the last 2 years of their lives (Linkins et al., 2008).

Use of costly emergency and inpatient services by individuals with SUDs and co-occurring medical conditions is becoming more common. The number of hospital admissions for people with a medical condition and an SUD increased 50% from 1994–2002. Adjusted for inflation, the total costs of these hospitalizations grew 134% over the same time period (Santora & Hutton, 2008). Public budgets absorb a disproportionate share of these costs. Among hospital admissions involving co-occurring SUDs and medical conditions, over half are insured by

Medicaid, 16% are insured by Medicare, and 16% are uninsured; in total, public funds cover 85% of these admissions, with the Medicare and Medicaid systems absorbing 70% of their total costs (Santora & Hutton, 2008). Overall, more than half of the $2 billion worth of SUD-related stays in community hospitals each year are billed to government payers (Owens et al., 2007), and it is estimated that one out of every five Medicaid hospital stays is related to SUDs or substance abuse related conditions (Fox et al., 1995). In ERs, the majority of care for individuals with SUDs is also covered by public funds; private insurance covers only 22.2% of SUD-related visits, whereas 35.6% are billed as uninsured, 20.7% are billed to Medicaid, and 16.3% to Medicare (Owens, 2010).

Substance abuse treatment services cut health care costs

Evidence-based behavioral and pharmacological interventions to treat SUDs can reduce substance use, improve health, and limit the need for individuals with SUDs to utilize costly emergency and inpatient services. Given the tremendous impact that SUDs have on costs, many health care systems have expanded SUD services in order to rein in budgets. As the following studies and evaluations illustrate, SUD treatment is a cost-effective way to reduce the financial burden that untreated SUDs impose on health care systems:

- Colorado: From 2007–2009, Colorado's Medicaid program provided an additional $2.4 million to expand the state's substance abuse benefit to 5,200 residents. The investment was associated with a total of $3.5 million in Medicaid savings in dental care, ER, hospital, outpatient, pharmacy, and mental health services provided to these enrollees (Colorado State Auditor, 2010).

- Kaiser Permanente (Sacramento): Patients who received outpatient SUD treatment experienced a 39.0% decline in inpatient episodes, a 44.6% decline in inpatient days, and a 37.5% decline in ER visits 6 months after completing treatment. Consequently, their total medical costs for the 6-month period after treatment dropped 25.6% compared to the 6 months preceding treatment. These savings were sustained over an 18-month period, as reductions in inpatient episodes, duration of inpatient episodes, and ER utilization were sustained. Compared to the 18 months preceding treatment, inpatient costs declined 35%, ER costs declined 39%, and the total cost of their care declined 26% in the 18 months after they completed treatment (Parthasarathy, 2001).

- Ohio Medicaid Program: In the first 6 months enrollees with SUDs were in treatment, their average monthly medical costs were less than half those of individuals with SUDs who did not enter treatment; 6 to 12 months later, total medical costs for individuals who did not receive treatment were over 50% higher than those of individuals who received SUD treatment. Overall, health care costs for the individuals with SUDs who did not receive treatment were 85% higher over the course of 1 year (Gerson, 2001).

- South Dakota: An investment of $1,382 per patient in SUD treatment reduced average annual hospital costs by $1,742. Independent of savings achieved by reducing ER utilization and chronic disease burden, the state was able to achieve a 28.9% return on its investment by cutting hospital costs (Leonardson, 2005).

- Washington State
  - Investing $2,300 per person in SUD treatment for a group of uninsured residents achieved $4,500 in health care savings over the course of 5 years (Luchansky & Longhi, 1997).
  - An initiative to provide SUD treatment to Supplemental Security Income recipients reduced monthly ER costs from $442 per enrollee to $288 per member per month (PMPM), and cut ER expenditures by 35%. (Nordlund, 2004) Among frequent visitors to the ER, SUD treatment reduced ER utilization by 48% (Mancuso, 2004). The total ER cost offset for SUD treatment was $154 PMPM (Nordlund et al., 2004), and SUD treatment also saved $48 PMPM in state hospital expenses (Estee & Nordlund, 2003). Overall, by investing $162 PMPM in SUD services, the state was able to achieve a $414 PMPM reduction in medical and mental health costs, for a net cost benefit of $252 PMPM (Estee & Nordlund, 2003).
  - Recent expansions of SUD services to Medicaid have also achieved significant cost savings, leading to an estimated $321 PMPM in medical cost savings for disabled Medicaid beneficiaries (Mancuso et al., 2009).
  - Among clients receiving General Assistance, investing approximately $2,300 in treatment achieved $2,520 in Medicaid cost savings over the course of 1 year. These savings represented approximately 35% of the annual Medicaid expenses incurred by these enrollees (Wickizer et al., 2006).
  - Over the course of 4 years, Washington State has saved $2 in medical and nursing facility costs for every dollar it has invested in expanding SUD services (Mancuso et al., 2010).

Most Californians who need SUD services do not receive them

Of the 23.5 million Americans who need specialty treatment for SUDs, only 2.6 million—just over 11% of them—actually receive it (SAMHSA, 2010). Stigma is one reason so many with SUD service needs go unserved, as concerns that employers or others in the community have negative opinions of "alcoholics" and "addicts" push many individuals with SUDs to keep their problems secret (Luoma et al., 2007). Approximately 12% of individuals who recognize that they need SUD services but do not receive them cite concern that others would have a negative opinion of them if they enter treatment (SAMHSA, 2010). But a much more significant cause of the SUD treatment gap is that the vast majority of people with SUDs do not believe they have a problem that warrants professional attention. Almost 95% of those who meet the diagnostic criteria for substance abuse or dependence and do not receive treatment do not think that they need SUD services (SAMHSA, 2010).

This does not mean, however, that these individuals do not seek help of any sort. Many people with SUDs present in medical settings for the treatment of physical or mental ailments that are related—either directly or indirectly—to their substance use behaviors (Ernst, Miller & Rollnick, 2007). Over 7.5 million individuals show up in emergency departments for the treatment of problems related to alcohol use each year (McDonald III, Wang & Camargo Jr., 2004), and approximately 22% of all patients who present in health care settings have a substance use condition (Treatment Research Institute, 2010). Consequently, medical settings are ideal places to identify individuals with SUDs, engage them in treatment, and begin providing services (Babor, 2007; Cherpitel, 2008).

Screening and early interventions are one way to address substance misuse within the broader healthcare system

Medical providers can identify patients who are using substances in a risky manner with brief validated screening tools such as the CAGE and the CAGE-AID, or longer but more comprehensive tools such as the World Health Organization's ASSIST and AUDIT instruments[2] (Babor et al., 2007). With brief intervention techniques such as motivational interviewing and the FRAMES model, primary care providers can address problematic substance use behaviors by helping clients recognize substance misuse and develop the skills and resources they need to change (Babor et al., 2007; Madras et al., 2009; Solberg, Maciosek & Edwards, 2008). If systematically implemented as part of a more comprehensive screening, brief intervention, and referral to treatment (SBIRT) program, services provided in primary care settings can be particularly effective in reducing substance use across patient populations.

Furthermore, SUD/PC integration can also help prevent risky drinking and drug use from developing into more serious problems. There are approximately 68 million Americans who drink alcohol or use drugs in an unhealthy or dangerous manner but do not meet diagnostic criteria for abuse or dependence (Humphreys & McLellan, 2010). Though such individuals do not need specialty SUD treatment, their drinking and drug use can cause significant and permanent changes to their brain's reward circuitry—alterations that can, in some individuals, lead to SUDs (McLellan et al., 2000). Interventions as brief as one 15-minute session (Kypri, 2007) can reduce the frequency and level of substance use (Babor et al. 2007; Humphreys & McLellan, 2010; Solberg, Maciosek & Edwards, 2008), thus helping prevent drinking and drug habits from evolving into more serious disorders.

In spite of the potential benefits of SUD integration with PC, such integration is lagging behind the integration of MH services with PC.

Whereas over 80% of the nation's Federally Qualified Health Centers (FQHCs—safety net health care providers, including community health centers, public health centers, outpatient health programs, and programs serving migrant and homeless populations) offer MH services onsite, only 55% offer SUD services onsite (Lardiere, Jones & Perez, 2011). While 90% of FQHCs screen for depression, only 65% screen for substance abuse (Lardiere, Jones & Perez, 2011). Overall, while MH disorders are just twice as prevalent as SUDs among the U.S. adult population, over 6 times as many individuals receive MH treatment in FQHCs than receive SUD services (Lardiere, Jones & Perez, 2011; SAMHSA, 2010).

The promising evidence for better outcomes with integrated care and the need to improve the quality of health care in the United States supports the need for the integration of the MH/SUD fields with the primary care field. While preserving their specialty areas of expertise, they can maximize the impact of their services by working with other providers to bridge the knowledge and communication gaps that often diminish the quality of the U.S. health system. The trends in national health care policy and practice are already moving toward the adoption of more strategies to initiate coordinated, clinically integrated behavioral and primary health care during this period of reform (SAMHSA, National Framework 34).

[2] Instruments are available at http://www.integration.samhsa.gov/clinical-practice/screening-tools

Evidence-based practices (EBPs)

The importance of translating scientific advances in disease-specific interventions into clinical practice has been emphasized throughout the health care system, largely stemming from the consistent observation of a wide gap between research and practice (Glasner-Edwards, 2010). One of the main challenges early adopters of integration initiatives face is identifying evidence-based practices (EBPs) for behavioral health services, particularly for SUDs, that are well suited to a primary care setting. There are space, time, and workforce issues, as well as regulation-driven challenges, that hinder full implementation. In addition, due to some controversies within the field around identifying EBPs for SUDs, there is a short list to choose from that are well suited for delivery outside of the specialty care system. Below are the current EBPs that have been commonly utilized in piloted integration initiatives.

SBIRT

Screening, brief intervention, and referral to treatment (SBIRT) is a comprehensive, integrated, public health approach to the delivery of early intervention and treatment services for persons with substance use disorders, as well as those who are at risk of developing these disorders. Primary care centers, hospital emergency rooms, trauma centers, and other community settings provide opportunities for early intervention with at-risk substance users before more severe consequences occur.

- Screening quickly assesses the severity of substance use and identifies the appropriate level of treatment.
- Brief intervention focuses on increasing insight and awareness regarding substance use and motivation toward behavioral change.
- Referral to treatment provides those identified as needing more extensive treatment with access to specialty care.

A recent federally funded initiative to institute SBIRT using SUD treatment providers, BH counselors, community health workers, health educators, and health care professionals in a variety of medical settings led to a 67.7% reduction in drug use and a 38.6% reduction in heavy drinking (Madras et al., 2009). Thus, SBIRT holds promise as a means to reduce excessive substance use among a significant portion of the patient population (Grycynski et al., 2011; Kaner et al., 2009; Madras et al., 2009).

Motivational Interviewing (MI)

Motivational Interviewing, an evidence-based treatment that focuses on exploring and resolving ambivalence about substance use, centers on motivational processes within the individual that facilitate change. The method differs from more “coercive” or externally driven methods for motivating change as it does not impose change (which may be inconsistent with the person's own values, beliefs, or wishes), but rather supports change in a manner congruent with the person's own values and concerns. MI is a collaborative, person-centered form of guiding clients to elicit and strengthen their motivation for change.

MI is one of the core components of a variety of interventions used by direct-service providers, supervisors, team leaders, and organizations in the following service areas:

- Substance abuse (addiction services)
- Mental health
- Psychiatry
- Primary health care
- Nursing
- Supported employment
- Tobacco cessation & recovery
- Vocational rehabilitation
- Residential
- Housing
- Healthcare
- Criminal justice

A meta-analysis by Burke, Arkowitz, & Menchola (2003) of 30 controlled clinical trials of adaptations of motivational interviewing showed clinical impact, with 51% improvement rates, a 56% reduction in client drinking, and moderate effect sizes on social impact measures.

Medication-assisted treatment (MAT)
MAT is the use of pharmacological medications, in combination with counseling and behavioral therapies, to provide a "whole patient" approach to the treatment of substance use disorders. Research indicates that a combination of medication and behavioral therapies can successfully treat substance use disorders, and for some people struggling with addiction, MAT can help sustain recovery. For substance use disorders, drugs are used to treat withdrawal ("detox") symptoms, to treat psychiatric symptoms or co-occurring disorders, to reduce cravings and urges, and as substitution therapy.

FDA-approved medications for alcohol dependence include: Disulfiram (Antabuse), oral naltrexone (Revia), intra-muscular naltrexone (Vivitrol), and Acamprosate (Campral). Non-FDA approved medications that are used off-label include: Topiramate (Topamax), Ondansetron (Zofran), Quetiapine (Seroquel), and Baclofen.

Opioid-dependence treatment with medications include: (1) detoxification: opioid and non-opioid based (opioid based: methadone and buprenorphine; non-opioid based: clonodine, supportive meds); and (2) relapse prevention: agonist maintenance (methadone), partial agonist maintenance (buprenorphine), and agonist maintenance (Naltrexone, Vivitrol). Opioid substitution goals consist of reducing symptoms/signs of withdrawal, reducing/eliminating cravings, blocking effects of illicit opioids, restoring normal physiology, and promoting psychosocial rehabilitation and a non-drug lifestyle.

Integration strategies/models
Promising models of SUD, MH, and PC integration are emerging along a continuum from minimal collaboration, to partial integration, to full integration with various configurations between the three fields. These models include co-location / reverse co-location, case coordination, and accountable care organizations/health homes. Multiple models have been piloted across the country and most show positive results; however, more research is needed to

effectively measure the impact of various models on patient outcomes. These early initiatives have been highlighted across the field through several webinars and conference presentations (See Appendix 2.1 for a full list of webinars/presentations referenced throughout this report). SAMHSA-HRSA Center for Integrated Health Solutions, National Counsel, and Center for Health Care Strategies facilitate ongoing webinars featuring many of these initiatives while also discussing barriers and solutions to providing integrated care.

Integration strategies/models from other states

Tennessee

In Tennessee, their Managed Health Care Organizations (TennCare) has implemented integration models at the provider level that facilitate integration of PC and BH care. "Integrated delivery teams," consisting of co-located and "visiting" providers, conduct integrated case rounds with input from physical health and behavioral health clinicians. This allows the team to treat patients with multiple conditions and establish stronger referral patterns. Future steps include developing measurement tools for integration, combating the stigmatization of mental health treatment, and leveraging BH expertise in physical health care.

Vermont

In Vermont, the Primary Care Case Management (PCCM) program provides better access to health care. A foundation of medical homes and community health teams support coordinated care and linkages with a broad range of services. Members of the team include a nurse coordinator, social worker, health coach, MH/SA clinician, and other extended community health teams. Community health teams can service a population of 20,000 per 5 FTE.

Arizona

Arizona is currently in the middle of implementing an integrated health care model. When the state began integrating services, the first step was to nurture the dialogue between community health centers, FQHCs, and local Native American tribes, many of which had been providing integrated care for decades. Arizona also utilized existing partnerships (Regional Behavioral Health Authority [RBHA] and Arizona Health Care Cost Containment System [AHCCCS]. The state also developed a steering committee to engage all stakeholders (including Arizona Department of Health Services [ADHS] and AHCCCS) to work on system transformation and improved coordination of health care.

Illinois

In Illinois, The Heritage Program (a 56-year-old behavioral health center), a current Primary and Behavioral Health Care Integration (PCBHI) SAMHSA Grantee, has been working with the FQHC in their county on an integration project for several years. The program consists of an onsite pharmacy and expanded wellness programming. They are working to continue to integrate primary care and mental health and to determine the best location for their medical home. They have learned that an electronic health record (EHR) with the ability to look at outcomes data and perform case management is crucial to providing integrated care. A fully integrated EHR is the goal, but local regulations, and billing and clinical documentation requirements may make that difficult. National and state association relationships and educational opportunities have been helpful in refining their integration approach.

Ohio

In Ohio, Greater Cincinnati Behavioral Health Services is the largest, most comprehensive community-based mental health provider in Hamilton County. They have co-located FQHC staff at their site for over 5 years. They have an in-house pharmacy and are using grant funds (PCBHI SAMHSA Grantee and Meaningful Use funds) for the expansion of EHR utilization and the expansion of their nursing and wellness program. They have learned that someone has to handle traffic control in a health home (in Heritage they have medical assistants do this job). They also found that they need to change lifestyle habits of patients to impact life expectancy and costs (wellness nurses, health home coordinators). Developing relationships with managed care organizations and establishing partnerships early on in the process was crucial.

Oklahoma

Grand Lake Mental Health (GLMH) in Nowata, Oklahoma, has been serving northeast Oklahoma (over 5,000 square miles) since 1979. They provide outpatient behavioral health services and have opened their own clinic offering basic primary care to enrolled adult BH patients; this includes well-women visits. They handle lab draws and outsource lab testing (no obstetrics, pediatrics, or diagnostics offered). They will only serve patients with a payer, and there is no provision for indigent care at this time. They have learned that moving from a culture of "or" to a culture of "and" was important for their organization. GLMH also used data to plan their project (they did a Chronic Care Survey to gauge the needs of their population). Pilot partnerships with the FQHC helped inform their project structure. The team meets every 2 weeks to address the project (evaluate services, etc.). In Oklahoma, the EHR is the biggest piece of the puzzle: integrated care means an integrated record. They report that “something magical” happens when a patient can see their PC provider and then their MH provider down the hall.

Learning from other states and from programs on the front lines initiating integrated care can assist in the integration activities taking shape in California (see case studies listed below). It has been emphasized that providers must be able to “quickly screen/assess and offer brief focused intervention on the same day” (Integration Models: lessons learned from the BH field). In addition, organizational management needs to adapt in that all members of governance boards should be educated and up to date on integration care models and health care reform trends (Integration Models: lessons learned from the BH field). It is also prudent for organizations to foster dialogue and partnerships with other community health care organizations and health care providers. Organizational and financial barriers persist in the implementation of sustainable integrated care programs. Health information technology (HIT) remains a mostly undocumented but promising tool. Reimbursement mechanisms for these services are minimal, unclear, and differ across states. There is a reasonably strong body of evidence that supports integrated care. The creation of incentives or mandating integrated care can spur integration efforts.

<u>Integration strategies: Hot topics</u>

Health Homes

The development of accountable care organizations (ACOs), specifically health homes, has been a hot topic for discussion this past year. Experts in the field have continued to discuss the benefits of health homes for the providers as well as for patient care. Accountable care is a rapidly accelerating concept in the evolving U.S. healthcare system, and health homes are one important example—especially under the Affordable Care Act (ACA). The ACA includes a

health-homes provision authorizing states to build a person-centered system of care that improves services and outcomes for beneficiaries and increases value for state Medicaid programs. Historically, primary health care services have operated independent of the behavioral health care service industry, which has led to a disparity in proper treatment for co-morbid patients. As the ACA approaches full implementation in 2014, new models of integrated care have been designed to cover this shortfall in service and treatment. In fact, a provision in the ACA allocates Medicare funds to establish community health homes designed to treat patients with chronic conditions and must include MH and SUD services (Behavioral Health Homes). These health homes must target patients with two or more chronic health conditions as well as addressing MH and SUD co-morbidities (Behavioral Health Homes). Additionally, behavioral health and SUD treatment providers can also become health homes and essentially become "behavioral-health based health homes" (Behavioral Health Homes).

There are three models for the Behavioral Health Home. The *In House Model* involves an agency that provides and owns the complete array of primary care and specialty behavioral health services (Examples: Cherokee in Tennessee and Crider in Missouri). *Co-Located Partnerships* involve a BH agency that arranges for healthcare providers to provide primary care services onsite and involve case coordination (one example is SAMHSA PBHCI Grantees; 64 BH sites that provide on-site primary care). In the *Facilitated Referral Model,* most PC services are not provided on-site, but the agency ensures coordination of care. They may conduct screenings and link clients to primary care providers (PCPs) and facilities and must also provide case coordination (Examples; PCARE and Samet et al.'s in 2001 facilitated referral intervention in a detoxification unit). In these instances, the chronic care model has worked well and includes five areas of concentration:

1. With self-managed support, patients are responsible for managing their care while collaborating with providers to maintain their level of health (Behavioral Health Homes).
2. Motivational Interviewing techniques are used to get patients activated in their health.
3. "Delivery system design" is the formation of multidisciplinary practice teams with clearly defined roles, a single care plan, effective communication, and coordinated care (Behavioral Health Homes).
4. "Decision support" ensures that clinical care is provided in line with best practices by involving specialists and embedding evidence-based guidelines into care (Behavioral Health Homes, e.g., placing standing orders in EMRs, developing patient registries and data analysis designs to maximize outcomes).
5. Developing an understanding of the contextual factors (e.g., poverty) that may contribute to a patient's poor health (Behavioral Health Homes). Community linkages are important to help support the patient's connection to resources in the community.

Telepsychiatry/Telemedicine

The push to integrate MH and SUD treatment into PC has created new issues for the medical field to contend with, but it has also spurred new strategies for overcoming these new shortfalls. In large counties, specifically those with a rural population, it is often very inconvenient for patients to drive two or more hours for BH or SUD counseling services. Compounding this travel difficulty is the estimated shortage of BH practitioners. An innovative solution to this problem is to bring BH practitioners to the patients via the teleconference medium. Telemedicine is defined

as “the practice of health care delivery, diagnosis, consultation, treatment and transfer of medical data and interactive tools using audio, video and/or data communication with a patient at a location remote from the provider” and has been in use for over 20 years. As technological advances rapidly develop, so too has the development and expansion of telemedicine, which encompasses a number of medical disciplines, including Telepsychiatry/Telemental Health. Telepsychiatry has been shown to be effective in the treatment of depression (Fortney, 2007. Hilty, 2007), anxiety (Hilty et al., 2004), and alcohol use disorders (Frueh, 2005). Shore (2007) found that telepsychiatry is more cost efficient than face-to-face services for assessment and treatment. O’Reilly (2007) found that telepsychiatry and face-to-face services were equally effective, and services cost 10% less to deliver through telepsychiatry. Telemedicine is feasible, effective, and efficient for the SUD/PC needs of rural populations. Telepsychiatry aims to increase access to SUD/MH care, reduce health care costs, and improve population health outcomes through the better treatment of co-occurring chronic conditions. Telepsychiatry also reduces the overall per capital costs of MH services. Not only do most states’ Medicare programs cover tele-behavioral health, “over 400 studies have shown that telepsychiatry patients are just as satisfied with treatment as same room patients” (Hilty et al., 2004).

Special population issues

Comorbidity/COD

Substance use disorders rarely exist on their own, but rather are often paired with other mental and physical abnormalities. The Substance Abuse and Mental Health Services Administration (SAMHSA) states that more than half of the adults with severe mental illness in public mental health systems have co-occurring substance use disorders. SAMHSA further indicates that 50% –75% of clients in substance abuse treatment programs have co-occurring disorders. Any organization considering integration must consider this fact when designing an implementation strategy. Models for addressing comorbid mental and physical conditions are evolving. One public health approach is the TEAMcare approach, which operates under a collaborative care model in which the PCP and team (with psychiatric supervision) and nurse care manager all work together in the interests of the patient. This model concentrates on both primary and secondary prevention. On the primary prevention front, the service team would be trained to “recognize that early trauma may be a risk factor for both physical and mental illness”; secondary prevention is concerned with screening for mental co-morbidities in PC and medical conditions in PC with an emphasis in follow-up screening. All together, the TEAMcare approach seeks to reduce the adverse affects that behavioral comorbidity can have on quality, costs, and outcomes of care.

Chronic pain

Primary care physicians (PCPs) are under extreme scrutiny when prescribing pain medications and, as a result, individuals who suffer from chronic pain are sometimes left to suffer, according to the National Council for Community Behavioral Health (NCCBH). NCCBH outlined a clinical cultural transformation that needs to happen if chronic pain is to be dealt with in an effective manner. First, physicians need to consider chronic pain as a disease and treat it as such. Second, physicians should adopt a biopsychosocial approach for dealing with patients suffering from chronic pain. Third, patients need to have access to a physician trained in the evaluation and treatment of chronic pain, such as a physiatrist. Lastly, there needs to be a team approach;

that is, the physician, pain specialist, and behavioral specialist should all communicate with one another to evaluate and decide on the proper treatment for a patient. To that end, a multi-disciplinary approach must be taken to treat chronic pain by concentrating on pharmacological assessment/documentation, interventional action, and behavioral life-style adjustments.

Information Technology:
Implementing the Electronic Health Record (EHR)

In light of health care reform and the integration of behavioral health services into PC settings, many PC organizations have expressed concern regarding the successful implementation of an EHR system. Many health care organizations have noted that the successful implementation of an EHR has been an integral precursor to an integrated health care system. To address this concern, the National Council for Community Behavioral Health (NCCBH, 2012) has described a five-step path for successful implementation of an EHR system.

First, the NCCBH advises health care organizations to "set realistic expectations" when implementing an EHR system—any dramatic change to an organization's flow of work results in "growing pains" and will require a significant amount of staff focus and time. Another challenge is that the EHR will create greater transparency and subsequent accountability across the organization, from admission to billing, and that untimely and incomplete documentation will be immediately apparent. Understanding, anticipating, and accommodating these challenges will "set the stage" for a more successful transition to an EHR.

The next step outlined by the NCCBH is for organizations to meticulously document their current practices in order to have an accurate representation of business procedures for a smoother, more accurate reconfiguration of the procedure in the EHR. This could include, but not be limited to, having an objective observer interview personnel closest to the positions related to health record storage and document their processes.

Next, organizations can prepare for successful EHR implementation by conducting "reality-based" testing of the system as a trial before the program "goes live." This can be achieved by using existing new client data in a test-run of the system's ability to serve the organization's needs, from scheduling appointments, to admitting new clients, to correcting billing claims.

The fourth step the NCCBH recommends is to conduct effective "end user processing." That is, staff must be trained to use the EHR as part of their everyday duties. In addition to training in standard operations, the training should include troubleshooting procedures for typical problems that can be anticipated and even "cheat sheets" for problems that arise frequently but are difficult for staff to solve on their own. This training must be conducted after the "reality testing" phase, to ensure that any system-related errors are already handled and that they can be differentiated from user errors. User training should occur as close to implementation as possible and should be led by the people closest to the end user (e.g., a supervisor). Training should be ongoing to ensure maximum efficacy and should be targeted toward staff that consistently make errors.

The last measure is to make sure the team is ready to "go live." This can be done, first, through obtaining verification that the system itself is technically ready (e.g., through vendor

certification). Next, administrators should make sure employees are ready. This can be done by issuing certification at the successful completion of training. Finally, an official "go live" date should be announced to make sure everyone makes the transition together.

Once established, an EHR in an organization can be useful in many ways, including to measure various outcome performances and program fidelity. In this way, an EHR system not only streamlines a health care organization's logistical processes, but it also provides a way for it to conduct quick and accurate program evaluation. Finally, the NCCBH makes it clear that it is important to note that "integrated care" means an "integrated record." Ultimately, having an EHR will facilitate the integration progress.

Privacy and Confidentiality
HIPAA vs. 42 CFR, Part 2 – Confidentiality Hurdles to SUD/PC Integration

The largest emerging administrative hurdle for PC organizations that are integrating behavioral health care, especially substance use disorder treatment, in response to the ACA is maintaining patient privacy and confidentiality. In addition to the primary challenge of protecting sensitive patient health information and the new challenge of maintaining this privacy in an electronic environment, the integration of BH and PC information ushers in the challenge of adhering to varying levels of protection between these different types of sensitive patient information. In order for integrated care to function effectively, information must be shared between these two disciplines. Before tackling the challenge of sharing information electronically, as suggested above (in the National Council for Community Behavioral Health's five-step path to ensure successful EHR implementation), integrated care sites must first work out an effective process for adhering to both sets of privacy regulations in temporal operations before moving the process to the electronic environment.

The first step to implementing privacy-protection procedures that satisfy differing confidentiality regulations is to understand what regulations apply to the information the organization is responsible to protect. Health Insurance Portability and Accountability Act (HIPAA) regulations already dictate how patients' medical information must be protected, but with the integration of substance abuse treatment, primary health care organizations must also familiarize themselves with the law mandating special protection for potentially highly stigmatizing and, therefore, more sensitive patient substance abuse treatment information—42 CFR, Part 2. CFR 42, Part 2 complicates the integration of SUD care into primary care settings because it mandates stricter policies on the sharing of SUD information. Though primary health care organizations are adept at following HIPAA regulations for the protection of sensitive health information, having practiced them since 1996, when it comes to confidentiality laws, when there are overlapping regulations, providers must follow the stricter regulations, which in the case of SUD information is usually 42 CFR, Part 2. This is not to say, however, that primary care information falls under the stricter 42 CFR, Part 2 policy, just that HIPAA policies are not strict enough to meet the 42 CFR, Part 2 requirements for adequate protection of sensitive SUD treatment information. To illustrate the difference in strictness, a health care organization "may not disclose information that identifies a patient directly or indirectly as having a current or past drug/alcohol problem, or as a participant in a Part 2 program" unless the patient consents in writing or an exception applies, due to the high stigmatization associated with SUDs.

Simply handling SUD information is not enough to trigger an organization's responsibility to adhere to 42 CFR, Part 2. An organization must follow 42 CFR, Part 2 guidelines if it (1) meets the definition of a "program" as outlined by 42 CFR, Part 2, and (2) if it is federally assisted.

According to 42 CFR, Part 2, a "program," other than a "general medical facility," is "any person or organization that 'hold(s) itself out' as providing and provides alcohol or drug abuse diagnosis, treatment, referral for treatment or prevention." It should be noted that "holds itself out" is not defined by 42 CFR, Part 2. However, the Legal Action Center (LAC), in its recent publication on the interpretation of the Federal Drug and Alcohol Confidentiality Law in regard to its implementation in response to health care reform, suggests that "it could mean a number of things, including but not limited to state licensing procedures, advertising or the posting of notices in the offices, certification in addiction medicine, listings in registries, internet statements, consultation activities for non-'program' practitioners, information presented to patients or their families, or any activity that would lead one to reasonably conclude that the provider is providing or provides alcohol or drug abuse diagnosis, treatment or referral for treatment." One of the most frequently asked questions, currently, is whether a program's services necessitate its adherence to 42 CFR, Part 2 due to "screening, brief intervention, and referral to treatment" (SBIRT) implementation. The LAC's response is that "whether patient information is protected by 42 CFR, Part 2 when SBIRT services are conducted depends on whether the entity conducting SBIRT activities is a 'program' as defined in the regulations."

To address the second criterion for triggering 42 CFR, Part 2, a program is considered to be federally assisted if it: (1) "receives federal funds in any form, even if the funds do not directly pay for the alcohol or drug abuse services"; or (2) is assisted by the Internal Revenue Service through a grant of tax exempt status or allowance of tax deductions for contributions; or (3) is authorized to conduct business by the federal government (e.g., Drug Enforcement Administration (DEA)-licensed to provide controlled substances such as methadone, benzodiazepines, or buprenorphine; certified as a Medicare provider); or (4) is conducted directly by the federal government (e.g., an employee assistance program in a federal agency) or by a state or local government that receives federal funds which could be (but are not necessarily) spent for alcohol or drug abuse programs."

If a program meets both of the above criteria, it falls under the auspices of 42 CFR, Part 2. However, as mentioned above, SUD treatment information can be shared with (1) patient consent or (2) when an exception applies. The LAC publication outlines specifically how treatment providers can properly obtain patient consent to share SUD information. The following are the only other exceptions to keeping patient SUD information private: if the information is shared as part of a program's internal communication, if no patient-identifying information is released, in the case of medical emergency, by court order, if a crime is committed at the program against program personnel, for research, for audits and evaluations, child abuse reporting, and finally, if a qualified service organization (QSO) or business associate (BA) agreement is in place. A QSO or BA can be set up to allow for information-sharing with organizations outside the program for purposes such as data processing, dosage preparation, laboratory analyses, vocational counseling, patient transportation, medical and health care, and legal, accounting or other professional services—the QSO/BA essentially extends the exception

that SUD information can be shared in-house as long as only the minimal amount of information is disclosed for the completion of a specific service.

Though maintaining patient privacy and confidentiality has proved to be a challenge to the effective integration of behavioral health care, especially SUD treatment, into the PC setting, there is a lot of information, collaboration, and technical assistance available to facilitate this shift in health care delivery and to translate effective, appropriate information-sharing practices to the new electronic environment. More information regarding 42 CFR, Part 2 regulations, definitions and implementation can be found at the LAC's website (www.lac.org).

Billing/financing practices

One of the major barriers to integrating PC, MH, and SUD services is the billing and reimbursement practices for these services within the PC setting, particularly through the Medicaid/Medicare payment system. While the ACA mandates reform of reimbursement to support behavioral interventions for chronic health conditions, many organizations are currently having trouble receiving payment for various BH services. Some of the most common barriers to reimbursement are Medicaid not always covering/reimbursing for services, restrictions on same-day services, specific codes not being recognized, and some insurance companies requiring pre-authorization for services. Behavioral health providers are encouraged to advocate for the use of Health and Behavior CPT (Current Procedural Terminology) codes at the state and local levels and to consider at the state level the development of integration-specific codes. Until reimbursement is reformed, however, the health care field must be aware that while Medicare billing and procedures are consistent nationwide, Medicaid benefits, coding, and payment vary across states. As health care reform moves forward, organizations must become familiarized with their state's Medicaid policies and regulations when designing an integration strategy to ensure that they will be reimbursed efficiently.

Billing Medicaid

To effectively bill for Medicaid reimbursable services, organizations must submit a claim form that contains specific CPT codes that link to relevant billable diagnostic codes and are provided by appropriately licensed professionals. CPT and diagnostic codes are consistent across the country; however, state Medicaid programs determine the types of services, codes, and individuals credentialed to provide those services, resulting in unique billing rules and regulations in each state. Health and Behavioral Assessment Intervention Codes (96150-96154) are currently approved codes for use with Medicare (some states are using them for Medicaid). Behavioral health services are "ancillary to" a physical health diagnosis (diabetes, chronic obstructive pulmonary disease, chronic pain). In California, some of the Health Behavioral Assessment and Intervention (HBAI) codes are "turned on." Some states are currently paying for behavioral health visits on the same day as medical visits (California does not; 30 states do).

California's Drug Medi-Cal system

California's Medi-Cal system has an additional obstacle to the integration of SUD services: California's Drug Medi-Cal program. The Drug Medi-Cal program in California was designed to finance a limited set of services that are delivered in specially licensed outpatient clinics. The Drug Medi-Cal Program funds five modes of treatment services: outpatient drug free, narcotic

replacement therapy, day rehabilitation for pregnant women, naltrexone, and perinatal residential services for pregnant and parenting women (http://www.adp.ca.gov/dmc/pdf/TITLE_22.pdf). This set of covered services does not include the use of Suboxone or Vivitrol, two of the most important new evidence-based medications, both of which would be most likely to be appropriate for use in primary care settings. Drug Medi-Cal also does not cover screening and brief interventions or contingency management, two other evidence-based services that will be critical in SUD-primary care integration efforts.

Because the Drug Medi-Cal benefit is "carved out" of the regular Medi-Cal program, and service delivery is limited to specially licensed Drug Medi-Cal facilities, the Drug Medi-Cal benefits cannot be delivered in FQHCs or any other health settings unless these facilities complete a separate Drug Medi-Cal application and became a Drug Medi-Cal licensed provider. This is unlikely, as Drug Medi-Cal would likely generate very small amounts of revenue and considerable administrative requirements. The facility-specific nature of where Drug Medi-Cal services can be delivered would preclude co-location of SUD service personnel into primary care settings and reimbursement by Drug Medi-Cal. Due to several limiting factors of Drug Medi-Cal, 19 California counties do not participate in the program, with 15 of the 19 not having certified Drug Medi-Cal providers.

As stated in the recent California Mental Health and Substance Use Needs Assessment (Technical Assistance Collaborative / Human Services Research Institute, 2012), the presence at the county level of three separate types of Medi-Cal plans—physical health, mental health, and Drug Medi-Cal—reinforces the cultural, organizational, information sharing, and financing separation of these systems. "One unintended consequence of the separate financing streams within Medi-Cal is a de facto incentive to manage scarce resources by moving people from one type of plan to another. From a national perspective, it is unusual to have separate specialty plans (carve-outs) for mental health and substance use services. In most states, if substance use services are included as benefits in managed care plans, they are incorporated with the mental health benefits in one plan. California's separate mental health and substance use service plans reflect but also may have exacerbated the inherent and cultural separation between these systems."

The Center for Integrated Health Solutions (CIHS) provides tools and resources to primary and behavioral healthcare organizations to help them successfully implement bidirectional integrated healthcare. CIHS has developed customized Interim Billing and Financial Worksheets for each state that identify existing billing opportunities for services provided in integrated settings (see http://www.uclaisap.org/Affordable-Care-Act for California's Worksheet). In states where the identified codes are not currently reimbursable, these worksheets identify areas of potential state policy work.

Medicare and Dual Eligibles

Medicare is defined as health insurance for people age 65 or older, people under 65 with certain disabilities, and all persons with End-Stage Renal Disease. The Centers for Medicare & Medicaid Services (CMS) recently added Part B Behavioral Health Preventive Services to Medicare, which covers alcohol misuse counseling and depression screening.

An important special population is the "Dual Eligibles," individuals who are eligible for both Medicare and Medicaid (also known as Medi-Medi). Medicaid may help some pay for their Medicare deductibles, co-insurance, copayments, and premiums. Medicaid covers many services Medicare does not. Over 9 million individuals in California are "dual eligibles." These patients are more likely to have mental illness, limitations in activities of daily living, and multiple chronic conditions. Few dual eligibles are served by coordinated care models and even fewer are in integrated models that align Medicare and Medicaid. Substance use disorders, with and without co-occurring mental illness, are more common among dual-eligible individuals than among Medicare-only beneficiaries. Recently, CMS issued a mandate to improve care for these individuals. The focus is on the integration of managed long-term care that includes behavioral health services (31 states are showing interest in this program).

Workforce Development

Providing quality care to identify and reduce risky substance use and diagnosing, treating, and managing addiction requires a critical shift to science-based interventions and treatment by health care professionals—both primary care providers and BH specialists. Significant barriers stand in the way of making this critical shift, including: (a) an addiction treatment workforce starved of resources, operating outside the medical profession, and lacking capacity to provide the full range of evidence-based practices including necessary medical care; (b) a health profession that should be responsible for providing evidence-based addiction screening, interventions, treatment, and management; and (c) inadequate oversight and quality assurance.

Compounding the profound gap between the need for addiction treatment and the receipt of such care is the enormous gulf between the knowledge available about addiction and its prevention and treatment and the education and training received by those who provide or should provide care. In spite of the evidence that addiction is a disease:

- Most medical professionals who should be providing addiction treatment are not sufficiently trained to diagnose or treat it;
- Most individuals providing addiction treatment are not medical professionals and are not equipped with the knowledge, skills, or credentials necessary to provide the full range of evidence-based services to address addiction effectively (Dilonardo, 2011); and
- Addiction treatment facilities and programs are not adequately regulated or held accountable for providing treatment consistent with medical standards and proven treatment practices (Dilonardo, 2011).

Further complicating this education, training, and accountability gap is the fact that there are no national standards for the provision of addiction treatment. Instead, there is considerable inconsistency among states in the regulation of individual treatment providers and of the programs and facilities that provide addiction treatment services.

To prepare for expected changes in the health care workforce due to health care reform, SAMHSA convened a meeting of representatives from higher education, the National Association of State Alcohol/Drug Abuse Directors (NASADAD), the State Association of Addiction Services (SAAS), the International Certification and Reciprocity Consortium

(IC&RC), the National Association of Alcoholism and Drug Abuse Counselors (NADAAC), and the Addiction Technology Transfer Center (ATTC) network. The purpose of this meeting was to develop a "Model Scope of Practice and Career Ladder" for substance abuse treatment workers (SAMHSA, 2011) that state, jurisdictions, and credentialing bodies could adopt and/or adapt as a means of developing defined career paths, credentialing criteria, and educational opportunities for professionals entering or seeking to advance their current standing in the substance use disorder treatment field as it becomes more integrated into primary care as a result of health care reform.

Based on the SAMHSA-based Center for Substance Abuse Treatment's (CSAT's) Technical Assistance Publication 21 (TAP 21), entitled *Addiction Counseling Competencies: The knowledge, skills, and attitudes of professional practice*, the Model Scope of Practice and Career Ladder defines the following activities as falling within the scope of substance abuse disorder counseling:

- Clinical Evaluation;
- Treatment Planning;
- Referral;
- Service Coordination;
- Counseling;
- Client, Family, and Community Education;
- Documentation;
- Professional and Ethical Responsibilities.

Four categories of professional development (Career Ladder) are defined, within which these activities are distributed and executed:

- Associate Substance Use Disorder Counselor, Category 1
- Substance Use Disorder Counselor, Category 2
- Clinical Substance Use Disorder Counselor, Category 3
- Independent Clinical Substance Use Disorder Counselor/Supervisor, Category 4

Since its creation by the California legislature in 1978, the ADP has been the designated Single State Authority for the state. ADP is primarily responsible for administering prevention, treatment, and recovery services for alcohol and drug abuse and problem gambling throughout the state of California. With regard to licensing, ADP has sole authority for licensing adult alcoholism or drug abuse recovery or treatment facilities. Licensure is required if the facility will be providing any of the following services: detoxification, group or individual sessions, educational sessions, or alcoholism or drug abuse recovery or treatment planning. Sober living environments, which are residential facilities licensed by the Department of Social Services, and Chemical Dependency Recovery Hospitals, licensed by the Department of Public Health, are not required to be licensed by ADP.

In addition to licensing treatment facilities, ADP offers a voluntary certification process for residential and nonresidential treatment facilities that identifies them as meeting minimum levels of service quality and as being compliant with state-established program standards. Most

licensed residential facilities are certified. ADP also certifies residential facilities that are licensed by the Department of Social Services – Community Care Licensing Division, the Department of Health Services, and facilities operated by the California Department of Corrections and Rehabilitation.

The requirements for certification for individuals providing counseling services in alcohol and other drug recovery and treatment programs that are licensed and certified by ADP appear in Title 9, Division 4, Chapter 8 of the California Code of Regulations (CCR). Specifically:

- Within six (6) months of the date of hire, all non-licensed or non-certified individuals providing counseling services in an alcohol and other drug (AOD) program must be registered to obtain certification as an AOD counselor by one of the approved certifying organizations (CCR, Section 13035(f)).

- Registrants are required to complete certification as an AOD counselor within five years from the date of registration (CCR, Section 13035(f)(1)).

- Certified individuals are required to provide documentation of completion of a minimum of forty (40) hours of continuing education and payment of a renewal fee to their certifying organization in order to renew their AOD certification during each two-year period (CCR, Section 13050(l)).

AOD counselor certification is based upon the *Addiction Counseling Competencies: The Knowledge, Skills and Attitudes of Professional Practice* (SAMHSA, 2006) and is achieved via one of nine certifying organizations currently approved to make such certifications by ADP. To obtain ADP approval, certifying organizations must first be accredited by the National Commission for Certifying Agencies (NCCA). Once NCCA accreditation is obtained, the organization submits a written request to ADP to recognize the organization along with written documentation of compliance with the requirements of CCR, Title 9, Section 13035(c). ADP currently recognizes the following nine certifying organizations in California:

1. Association of Christian Alcohol & Drug Counselors (ACADC)
2. Breining Institute
3. California Association for Alcohol and Drug Educators (CAADE)
4. American Academy of Health Care Providers in the Addictive Disorders (AAHCPAD)
5. Board for Certification of Addiction Specialists—Affiliated with the California Association of Addiction Recovery Resources (CAARR)
6. California Association of Drinking Driver Treatment Programs (CADDTP)
7. California Certification Board of Alcohol and Drug Counselors (CAADAC)
8. California Certification Board of Chemical Dependency Counselors (CCBCDC)
9. Indian Alcoholism Commission of California, Inc. (IACC)

B. California Integration Learning Collaborative (ILC) and county case/pilot descriptions

The California Integration Learning Collaborative (ILC) is a multi-county information sharing framework for county leaders to learn from each others' experiences and challenges when conducting SUD integration activities. Among the topics addressed in the ILC are: how to develop partnerships with primary care providers; which integration model works best in which settings; how to fund integration pilots; how to document SUD services in non-SUD settings; how implications from 42 CFR and HIPAA regulations affect implementation; and how to adapt SUD services to fit health care settings. The ILC aims to provide an interactive forum in which county administrators, SUD provider organization representatives, and other key stakeholders can collaborate on finding and developing sustainable approaches to the integration of SUD services within the broader health care setting. In addition, participants will receive technical assistance and support from selected experts in the field on improving specific clinical and operational areas.

In order to offer this assistance and learning collaborative to all 58 counties in California, the ILC is conducted via teleconference and Web-based technology, and, when possible, in-person at the County Alcohol and Drug Program Administrators' Association of California (CADPAAC) quarterly meetings. Invitations to participate are sent to county alcohol and other drug program administrators and other key stakeholders, including the Association of Alcohol and Drug Program Executives (CAADPE), California Opioid Maintenance Providers (COMP), California Therapeutic Communities (CTC), Mental Health Systems (MHSINC), California Association of Addiction Recovery Resources (CAARR), and Alcohol and Drug Policy Institute (ADPI). The ILC meetings are held on a monthly basis, with topics determined collaboratively by UCLA, ADP, and the participating members. Meetings commenced in April 2011 and are ongoing. Findings from ILCs conducted during the July 2011–June 2012 EnCAL contractual year are presented below.

From July 2011 to June 2012, the ILC held seven teleconference sessions and four in-person discussions. On average, teleconference attendance was approximately 25 participants, whereas the in-person meeting attendance was as high as 100. All meeting materials and summaries are posted on the Integration Learning Collaborative Website: http://www.uclaisap.org/Affordable-Care-Act/html/learning-collaborative/index.html. Ongoing communication and support are provided via e-mail and on the Website, with resources, materials, and presentations generated through the collaborative meetings.

The topics were determined by ADP and UCLA ISAP utilizing information reported from the California Integration Survey as well as the California Forum on Integration conducted in 2010. In addition, the ILC participants were surveyed to gather additional current topics of interest as well as to identify county representatives who were willing to report on models and outcomes from their own integration pilot activities.

B1. ILC Topics

Brief Treatment – Telemeeting (8/24/11):
Presenters:

- Tom Beers, Ph.D. – Clinical Director, CASBIRT
- Jeanne Obert, LMFT, MSM – Co-founder and Executive Director, Matrix Institute on Addictions
- Tom Freese, Ph.D. – UCLA ISAP

Through a combination of proposed health care reform changes and a federal commitment to improving health care in the United States, the public SUD service system faces monumental changes in the way services are delivered and funded. The United States is moving toward more integrated behavioral (MH and SUD services) and physical health care. With greater emphasis on providing integrated services within health care settings, more clients will be referred to treatment if they are screened in primary care settings. Providing brief treatment will also be important to counties as SUD services become more integrated.

The purpose for this tele-meeting was to create a forum for county administrators to learn about how two programs implemented brief treatment models.

California Screening and Brief Intervention and Referral to Treatment (CASBIRT)
The CASBIRT program, together with San Diego State University (funded by SAMHSA), provided screening in emergency departments and trauma centers and subsequent brief treatment for adults 18 years and older in San Diego. The program provided these services for 5 years. The goal of the program was to screen 45,000 patients per year.

The ASSIST survey was used to identify substance abusers. Those with a rating of "high" substance abuse severity were offered brief treatment at no cost by Dr. Beers, an MSW, or a CADC II. The program provided treatment over the phone 90% of the time. Of those who agreed to receive brief treatment, 50% were unreachable when counselors attempted to contact them, and 50% of those that were reachable agreed to proceed with the brief treatment.

Treatment featured manualized cognitive behavioral therapy. The manual was viewed as a guide for the counselors. Counselors had expertise in motivational interviewing techniques and delivered personalized and interactive treatment over seven sessions. The seven standard topics included: thoughts, impulses, triggers, alternatives, support systems, problem solving, and relapse prevention. Patients were also given "homework" assignments to be completed between sessions (it ultimately proved difficult to get patients to comply to these assignments).

The focus of the program was to provide services; as a result, the program did not have as much outcome data as they would have liked. Of the initial sample who expressed interest in brief treatment, 25% were engaged and retained in treatment. Fifty percent of those who expressed interest in brief treatment were unreachable after screening (due to lack of phone access, number change or disconnection, incarceration, not returning calls, etc.). A majority of the participants were in the pre-contemplation stage and would not have sought out treatment on their own. Two thirds of the program participants were male, the average age of the sample was 41 years, 40%

were Latino/a, and 16% were monolingual (Spanish). Many had few financial resources and were burdened with other problems in addition to substance abuse. The 25% who engaged and were retained in brief treatment tended to be older, more educated, and had higher incomes.

Matrix Institute on Addictions

The Matrix Institute on Addictions' brief treatment program was created out of a need to treat the growing number of "hazardous users," or those, as defined by the World Health Organization, who abuse substances but are not dependent on them. The Matrix Institute opened in 1984 and has four clinics (two private and two public) in Los Angeles and San Bernardino counties. All Matrix clients received the same intensity of treatment until around 1990, when there was a great influx of people with less extreme SUDs who only needed brief treatment.

Matrix started screening patients using the SOCRATES instrument and, eventually, its own screening form at intake to assess each patient's stage of change. Matrix crafted a brief, focused protocol out of the FRAMES model for this special population, which also relied heavily on motivational interviewing. This model served the dual purpose of addressing the needs of lower severity users and motivating people early in the stages of change to seek more intense treatment. The model included six sessions with homework assignments between sessions (stage of change assessment, family substance use history, alternatives, values regarding life goals and continued substance use, values regarding personal health and continued substance use, planning). Often by the third session (where it is first mentioned that stopping use is an option), patients with more severe SUD are motivated to seek more intense treatment. Though there is no outcome data, there is anecdotal support for the efficacy of the model from both patients and staff.

Discussion

Discussions were held around the blurring of the lines between prevention and treatment. The CASBIRT Program noted that after implementing paper-based screens, it became apparent that the population was struggling with higher severity SUDs than originally anticipated. This finding drove the aim to prevent advanced SUD acuity, shifting focus more toward prevention and early intervention than treatment. With this in mind, these interventions can be paid for with prevention funds and can be made more available to younger populations. Matrix already uses a prevention model when working with adolescents, who tend to not be far along on the continuum of readiness for change. Thus, as mentioned previously, the prevention model can facilitate these patients achieving readiness for full treatment. Also, regarding the treatment of adolescents, it is not mandatory that a patient receives a formal SUD diagnosis for funding purposes. This can be a major concern when working with adolescents because of the potential stigma of such a label so early in life.

Discussions were held around the experience of counselors used in these programs. When screening for SUDs, the CASBIRT program used the emotional/psychological section of the Addiction Severity Index (ASI) to screen for mental health (MH) issues in addition to SUDs. As would be expected, the MSW on the project demonstrated more proficiency at identifying MH issues and less proficiency at identifying SUD issues than the CADC II. Most counselors at Matrix are licensed MH professionals and all patients receive formal MH screenings. When a MH issue is identified, manualized SUD treatment does not differ in any way except that the counselor will adjust the content to incorporate the patient's co-occurring disorders and provide

referrals to specialty MH care, as needed. The importance of staff preparation and training was stressed, since the content of the intervention relies heavily on staff expertise.

The CADC II counselor with CASBIRT happened to be bi-lingual and bi-cultural, which the project found vital to providing culturally appropriate care to the predominantly Latino/a population. There was no change to the seven standard topics for special populations (Latino/a nor women) which was fine, since the bulk of the therapeutic content is crafted by the counselor and made individually relevant. Interventions from both CASBIRT and Matrix were provided predominantly on a one-on-one basis, so the issue surrounding women/men's comfort disclosing sensitive material in front of their partners or families is moot. It was agreed that same-gender counselors are more effective in therapeutic interaction.

Workforce: A vision for the future – in-person meeting (3/28/2012)
Presenter:

- Mady Chalk, Ph.D., Director, Center for Policy Analysis and Research, TRI

The movement toward integration has created an increasing demand for higher skills, flexibility in services, and expanding roles in the substance use disorder (SUD) workforce. New types of patients have and will be identified as new health care settings identify patients with SUDs. Currently, factors hindering a fully developed workforce include a relatively short longevity and high turnover rate for SUD staff, declining enrollment in professional schools for treating addiction disorders, poor minority representation in the health care profession, and a lack of unified plans for investment in workforce development.

Treating SUD as a chronic illness and adapting treatment so that it is patient-centered has raised the bar regarding the skill level of the workforce and called for new skills and flexibility in the staff and organizations. In addition to the scientific advances in treatment models, integration will also require the adoption of more advanced technology in SUD treatment facilities that other health care institutions use (EHRs, etc.).

Dr. Chalk proposed that the field consider workforce models in other industries as models for the next evolution of the SUD workforce. She provided two examples: the Honda Flexifactory and the Semi-Conductor Industry.

1) The Flexifactory model is capable of changing its item of production with relative ease, low cost, and great rapidity. It is capable of making more than one model simultaneously, and employees are expected to be flexible and operate as a network that balances capabilities. A "Flexitreatment" program would be capable of changing administrative/organizational approaches, treatment models, or components of treatment with relative ease. This model would form a vital bridge between individual clinicians, technologies, and organizational strategies for coping with shifting referrals and treatments. As in Flexifactories, there could be Flexiclinicians. The Flexiclinician would be capable of adapting treatment approaches/services to individual clients with relative ease, providing similar quality of care for a diverse patient population, and functioning on a team with a diversity of skill sets. The biggest advantage of this model is that

Flexitreatment programs could balance services between programs so that each facility does not have to offer lower-demand services when it could simply outsource such services.

2) The Semi-Conductor industry is a knowledge-based industry that has doubled computing power about every 18 months. It faces technological challenges that threaten the industry and relies on employees to devise clever solutions to these problems. This industry must compete in a "high velocity" environment where uncertainty is created by technological change, fluctuations in demand, and regulatory decisions. Workers in this industry are skilled and educated, which allows them to create, interpret, analyze, and transform to create value from knowledge.

Discussions ensued as to the implications of these models for the addiction treatment workforce. Concerns included: increased rate of development of new technologies (e.g., medications for cocaine and methamphetamine), increased complexity of processes of care, and greater emphasis on management issues relative to technical issues. Organizational and infrastructure support will be needed if new technologies are introduced as quickly as they are developed (e.g., multi-organizational coordination with primary care). Managerial capabilities must expand to handle the increasing volume of clients (including new clients from expansion with health care reform). These administrators must manage the pace of clients moving through primary care and specialty care, and they must implement multi-organizational collaboration and bring in new types of human resources.

As science advances, product (treatment and recovery) complexity will increase and issues will emerge at an increasing pace. Performance improvement of care processes, individual clinician's practice, and infrastructure for service delivery will be necessary components of long-term goals. Treatment programs should develop their areas of strength and outsource areas of weaknesses while still maintaining flexibility. There may be an increasing trend toward specialized treatment programs that then could link in a highly collaborative way to create the combined capabilities needed to offer a complete continuum of care (patient-focused, adaptive, and flexible) at a reasonable cost.

Areas where failure is likely to occur include: getting stuck in the past, losing track of useful information about scientific advances, not wanting to try new processes and revisit old decisions, staying stuck in current processes and not making new decisions, and not adapting to the new reality that identifies substance use disorders as a chronic health condition.

<u>Medication Assisted Treatment for Alcohol and Opioid Dependence – Telemeeting (4/25/12):</u>
Presenter:

- Larissa Mooney, M.D. – Assistant Clinical Professor of Psychiatry, UCLA

Addiction is a chronic, relapsing brain disease characterized by compulsive use despite harmful consequences. Pharmacotherapy should be thought of as part of a multi-modal treatment plan (i.e., medications, therapy, and lifestyle changes). Risk factors include genetics (25-50%), environment (pre/post-natal, comorbidity, stress-responsivity), and drug-induced effects. Neurobiologically, drugs stimulate the dopamine pathway (reward system of the brain). The process of addiction causes dysfunctional learning, memory impairment, maladaptive behavioral

patterns, impaired decision-making, loss of control, and altered neurobiology. For substance use disorders, drugs are used to treat withdrawal ("detox") symptoms, to treat psychiatric symptoms or co-occurring disorders, to reduce cravings and urges, and as substitution therapy.

Alcohol

Alcohol-related disorders are the third leading cause of preventable death. They consist of 15-30% of primary care visits and hospitalizations and reduce the life span by an average 15 years. Cardiovascular consequences include hypertension, cardiomyopathy, coronary heart disease, and arrhythmias. Hepatic consequences include fatty liver, alcoholic hepatitis, and cirrhosis. Neurotransmitters affected by alcohol include: (1) dopamine, which increases feelings of happiness and reward, (2) endogenous opioids, associated with feelings of euphoria and pain relief, (3) +GABA, a main inhibitory neurotransmitter, and (4) -Glutamate, a main excitatory neurotransmitter. Medications intervene at different stages in the pathways. FDA-approved medications for alcohol dependence include: Disulfiram (Antabuse), PO naltrexone (Revia), IM naltrexone (Vivitrol), and Acamprosate (Campral). Non-FDA approved medications that are used off-label include: Topiramate (Topamax), Ondansetron (Zofran), Quetiapine (Seroquel), and Baclofen. Details were discussed on FDA-approved medications.

Disulfiram (Antabuse)

- Mechanisms: inhibits aldehyde dehydrogenase, causing buildup of acetaldehyde with alcohol ingestion
    - Causes flushing, nausea, vomiting, headache; in severe cases it can cause arrhythmias, seizures, coma, cardiovascular collapse
    - Reactions may occur 1-2 weeks after dose
    - Most likely to benefit highly motivated and directly observed patients

Oral Naltrexone (Revia)

- Mechanisms: μ-opioid antagonist that decreases positive reinforcing effects and cue/alcohol-related cravings
    - Side effects: nausea, dysphoria, increased LFTs
    - Results: fewer drinking days, less consumption, decreased cravings
    - Research: in two studies, participants treated with Revia had a greater reduction in relapse during the study than those treated with placebo

Intra-muscular Naltrexone (Vivitrol)

- Mechanisms: opioid antagonist
    - Enhanced compliance; ideal if drinking is stopped 7 days prior to drug administration
    - Requires monthly injection and is very expensive
    - Results: decreased heavy drinking days, decreased frequency of drinking

Acamprosate (Campral)

- Mechanisms: NMDA receptor modulation (restores glutamate balance)
    - Blocks negative reinforcement
    - Side effects: diarrhea, abdominal discomfort
- Start post-detox (ideal)

    - Results: increased time to relapse, increased total abstinence, reduced drinking days
- Research: in all three studies, participants treated with Campral maintained abstinence longer, reduced number of drinking days, and regained abstinence after relapse more frequently than subjects given placebo.

Opiates/Opioids

Opiate/opioid-related disorders have led to several public health problems, including disease and virus exposure (tuberculosis, STDs, HIV/AIDS, HBV, HCV), and needle-related problems (abscess, cellulitis, subacute bacterial endocarditis, skin conditions, botulism). Opioid dependence treatment aims are (1) Detoxification: opioid and non-opioid based (Opioid based: methadone and buprenorphine; Non-opioid based: clonodine, supportive meds), (2) Relapse prevention: agonist maintenance (methadone), partial agonist maintenance (buprenorphine), agonist maintenance (naltrexone / Vivitrol), and (3) Lifestyle and behavioral changes. Opioid substitution goals consist of reducing symptoms/signs of withdrawal, reducing/eliminating cravings, blocking effects of illicit opioids, restoring normal physiology, and promoting psychosocial rehabilitation and a non-drug lifestyle.

Methadone:

- Action: CNS depressant / Analgesic
- Effects last 24 hours; once-daily dosage maintains constant blood level
- Prevents withdrawal symptoms, reduces cravings and use, facilitates rehabilitation

Buprenorphine

- Mechanisms: Partial μ-agonist, analgesic properties
- Office-based, expands availability
- Lower abuse potential, safer in overdose

Intra-muscular Naltrexone (Vivitrol)

- Mechanisms: Opioid antagonist
- Enhanced compliance
- Must be opioid free for 7-10 days before injection of dose
- Blocks opioid effects for 4 weeks

When providing medication-assisted therapies, it is important to carefully address the dually diagnosed population. These patients are more likely to have increased severity of mental illness, medication noncompliance, worse treatment prognosis, lower income, worse physical health, and increased risk of incarceration. Integrated treatment of SUDs and MH disorders has shown to be more effective than separate, sequential, or parallel treatment. Addiction is a serious, chronic and relapsing disorder, but treatments are available. Medications should be considered as part of a comprehensive treatment plan, addressing both disordered physiology and disrupted lives. Medications should be considered for treatment of psychiatric symptoms, addictive disorders, and co-occurring disorders.

National Hot Topics and Controversies Around Health Care Reform – in-person meeting (5/26/12)

Presenter:

- Suzanne Gelber Rinaldo, Ph.D., President, The Avisa Group

Dr. Suzanne Gelber-Rinaldo conducted a review on what other large states are doing with health care reform and the effects on SUD treatment thus far.

Pennsylvania

Analogous to California in many ways, Pennsylvania (PA) has an extremely diverse population with both large urban and rural areas. It is a county-led state with strong SUD county and state programs, and a strong policy-oriented provider association in SUDs. In 1997, Pennsylvania initiated the Pennsylvania Health Choices. It was one of the first states to implement its own health care reform. It was a geographically phased approach in which medical services were addressed first, then behavioral health. Counties had the right of first opportunity to apply competitively to be the vendor for the behavioral health and health care services delivery system for Medicaid recipients. The state has competitively selected managed behavioral health organizations in counties that did not apply. The Pennsylvania Office of Mental Health and Substance Abuse Services has successfully implemented Health Choices in 25 counties so far (3 zones) via the Community Behavioral Health Network of Pennsylvania (CBNHP). Approximately 895,000 Medical Assistance enrollees are covered. Services covered include in-plan only (i.e., no out-of-network services are covered, but there are supplemental services available, if approved). SUD benefits include:

- Crisis Intervention (including psychiatric)
- Outpatient Drug and Alcohol Treatment, including evaluation and individual/group therapy
- Methadone/MAT
- Drug and Alcohol Detoxification (in hospital, ambulatory, or approved facility)
- Behavioral Health Rehabilitation Services for Children and Adolescents (includes SUDs, wraparound)
- Non-covered services: residential treatment for SUDs – not in plan, no approval, results in service denial
- CBHNP works with other agencies, PCPs, area and county agencies, and social services to help organize treatment and support

Minnesota

Minnesota is a very progressive state. Medicaid and MinnesotaCare (which covers the expansion population) both have SUD benefits. Medicaid covers alcohol and drug treatment. CMS funds a dual-eligibles pilot program that includes full integration of medical care, behavioral health care, long-term care, and community services. An example of a comprehensive program is within Hennepin county, which has a long history of providing services (carved out substance use). They created an accountable care organization (ACO) to cover the Medicaid expansion population. The program combines behavioral health, social services, and countywide services, and also crosses over to include criminal justice and social services for clients who need support.

Texas
Texas is one of three states (along with Florida and Wisconsin) that are not formally implementing the ACA. SUD services are being provided in a health-reform "lite" fashion. An unusual requirement exists in that services are tied to what is fiscally supported by the state's Legislative Budget Board. The state is allowed to discontinue SUD services under Medicaid via this legislation, if providing services increases overall Medicaid costs. Texas is a minimal taxation state and, like California, has had budget shortfalls. Newly covered benefits under Medicaid began in 2010.

Covered Services in 2010 include:

- Assessment, no prior authorization required;
- Ambulatory outpatient treatment (135 hours of group plus 26 hours of individual per year);
- MAT – can be provided by MDs and by facilities approved by the state;
- Ambulatory detoxification; only in Medicaid-enrolled chemical dependence treatment facilities, must have prior authorization (electronic), up to 35 days per episode with a limit of two in 6 months

Covered Services in 2011 include:

- Residential detoxification, prior authorization, must be medically necessary
- Special services for pregnant women and their children; not many approved vendors (wraparound)
- MAT for adolescents, up to 20 sessions
- Residential Treatment Center services for adolescents
- Not covered: aftercare, telemedicine
- Retrospective review done on all claims

New York
SUD benefit reform is part of a wholesale SUD service reorganization in New York that created the former Managed Addiction Treatment Services, a Medicaid reform initiative that incorporates covered case management. It targets chronic cases and/or high utilizers. New York is phasing in Medicaid managed care geographically. The state explicitly invoked the "good and modern" system of ideas from SAMHSA. Both Medicaid managed care and Family Health Plus (expansion population) cover SUD services. New York's new Health Home program changed the SUD system again. Existing benefits include access to a full continuum of care, including crisis/detoxification, inpatient, long-term residential, supportive housing, and outpatient services, including medication-assisted therapies. Care coordination has become key and has replaced case management as of April 2012. The first wave of health home projects includes individuals with chronic SUD/MH. Level-of-care determination, SBIRT practices, and services assignment mechanisms continue to be in discussion and evaluated. Behavioral health organizations need to stay at the table to ensure quality service delivery and coverage.

Effects of State Health Reform (Massachusetts, Vermont, Maine)
NASADAD issued a 2010 statement that "after health care reform, both access and demand for services rose [Massachusetts, Vermont, and Maine]." It was acknowledged, however, that the uninsured rate among those with SUDs remained high. Savings were realized through

Administrative Services Organizations. Challenges identified included: enforcing parity, addressing workforce shortages, and increasing administrative costs to SUD treatment providers.

Capoccia et al. (2012) reviewed the experience of Massachusetts with regard to the incorporation of SUD services into their essential benefit for their covered residents. Analysts expected an increase in access and utilization. The actual experience showed that SUD patterns remained stable, a large proportion of SUD patients stayed uninsured, and that many insured SUD patients were deterred from treatment because of requirements such as copayments, eligibility requirements, and lack of outreach. Specifically, co-pays deter use of services, the homeless population cannot provide the documents to qualify, and benefits are terminated when a patient goes to jail and it can take another year for these patients to re-qualify for Medicaid. In such cases, it is better to suspend rather than terminate eligibility. The absence of a redesign in SUD treatment may be an issue. There is ineffective outreach, and so more focus needs to be placed on that.

<u>Epidemiological Update on the Prescription Drug Abuse Problem – Telemeeting (6/27/12)</u>
Presenter:

- Beth Rutkowski, M.P.H, Associate Director of Training and Epidemiologist, UCLA ISAP

Prescription (Rx) drug abuse among both adult and adolescent populations is an increasing problem across the country. As SUD services are more integrated into the health care system, it is important to understand how prescription drug use can be problematic, as well as how misuse can be identified and addressed. Beth Rutkowski presented on the current trends of Rx drug use and misuse as well as on Los Angeles County's current strategies addressing this problem.

Rx drugs are not inherently bad. When used appropriately, they are generally safe. The term "misuse" is used to describe any use that is outside of a medically prescribed regimen, for example, using a psychoactive for "high" effects or taking a medication in extreme doses. There are four major pathways for prescription diversion: (1) pharmaceuticals manufactured lawfully, but stolen during distribution, (2) medications obtained inappropriately from legitimate end-users, (3) fraudulent prescriptions written on stolen prescribing pads, and (4) "doctor shopping." The Rx epidemic is unique in some ways, particularly because although Rx drugs are legal and are prescribed by an MD, they are not necessarily safer than illicit substances.

There are several factors fueling the epidemic: increase in legitimate commercial production and distribution of pharmaceuticals; increase in marketing to physicians/public; an 150% increase in prescriptions written for controlled drugs; and the chronic use of Rx opioids for non-cancer pain and abuse (which is much higher and growing faster in patients with MH and SUDs than those without these diagnoses). The term "twin epidemic" has surfaced for describing Rx drug abuse and unrelieved pain; 50 million Americans live with chronic pain and an additional 25 million live with acute pain. Reports of illicit misuse must not hinder patients' access to beneficial medical treatments. Aberrant drug-taking behaviors that should be monitored include: selling Rx drugs, Rx forgery, stealing/borrowing another patient's drugs, injecting an oral formulation, obtaining Rx drugs from non-medical sources, concurrent SUD, and recurrent Rx losses. Some

less predictive behaviors include: aggressive complaining about a need for a higher dose, drug hoarding during reduced symptoms, requesting specific drugs, acquisition of similar drugs from other medical sources, unsanctioned dose escalation 1–2 times, unapproved use of the drug to treat another symptom, and reporting psychic effects not intended by the clinician.

Commonly misused Rx drugs include:

- Opiates: (pain-killers) vicodin, oxycotin, Tylenol, codeine
- CNS depressants (sedatives/tranquilizers); xanax, ativan, valium, soma
- Stimulants: (for ADHD, weight loss); adderall, ritalin, concerta, dexedrine, fastin

Within the United States, marijuana is the most commonly abused illicit drug. Non-medical use of Rx drugs are the 2nd most commonly abused drug category. Rx drug abuse is 3 times more prevalent than illicit use of cocaine, crack, and hallucinogens; 2.4 million persons 12 years or older used psychotherapeutics non-medically for the first time within the past year. Estimates in 2010 were similar to the 2009 rate but significantly lower than the 2004 rate. In 2010, the average age of first nonmedical use was 22.3. Out of 4.5 million drug-related ER visits in 2009, 1.1 million were associated with non-medical use of a Rx drug (24.6%). Pain relievers (47.8%) were the most common type of medications involved in medical emergencies associated with nonmedical use of pharmaceuticals. More than 12% of high school seniors report having used opioid-based Rx drugs for non-medical purposes at least once in their lifetime; 8% within the last year. Those who used these drugs for reasons other than pain relief were more likely to use other addictive drugs and have signs of an addictive disorder. Older adults account for 13% of the U.S. population but use one third of all medication prescribed (21.7% receive one Rx annually). Older adults use Rx drugs 3 times more than the general public (average 4.5 medications per day); $72.5 billion in health care costs are associated with Rx drug abuse. Opioid abusers generate, on average, annual direct health care costs 8.7 times higher than non-abusers.

Existing campaigns against the abuse of Rx drugs include: National youth anti-drug media campaigns such as Above the Influence and Parents-the Antidrug (ONDCP), SAMHSA's Prevent Prescription Drug Abuse, and Partnership for a Drug-Free America. The Secure and Responsible Drug Disposal Act was initiated in 2010, creating programs for the safe return/disposal of unused Rx drugs. In addition, ONDCP issued a Rx drug abuse prevention plan that incorporated four elements into the administration's approach to reducing Rx drug abuse: (1) Education: proper practices, parent/patient education, (2) Monitoring (i.e., California Prescription Drug Monitoring Program (PDMP), (3) Disposal: Secure and Responsible Drug Disposal Act, and (4) Enforcement of pill mills, rogue pharmacies, and illegal pain clinics.

There are several prevention strategies to minimize Rx drug abuse. Key players include primary care physicians, pharmacists, and patients. PCPs should incorporate better screening for Rx drug abuse, help patients recognize potential problems, note changes in amount of meds needed or unscheduled refill requests, be aware of "doctor shopping," help patients recognize abuse problems, and support patients in seeking appropriate treatment. Pharmacists should inform patients on appropriate use of medication/side effects/interactions, monitor Rx for falsification/alteration, and to also be aware of "doctor shopping." Patients should follow prescribed directions, be aware of drug interactions, discuss dosage changes or cessation of use with prescribing physician, and disclose any use of medication and dietary supplements.

B2. County Case/Pilot Descriptions

Santa Clara – Telemeeting (7/27/11)
Presenter:

- Kakoli Banerjee

With the goal of integrating substance use disorder care and primary health care in the Santa Clara Valley Health and Hospital System, the Department of Alcohol & Drug Services (DADS) is piloting two integrated care programs that involve SBIRT, the Moorpark Medical Home and the Alexian Integrated Care Project. Through these projects, which began in 2010, DADS plans to see improvements in medical and substance use problems when they are addressed in integrated treatment, improvements in patient compliance with their medical care and substance abuse treatment plans, and a decrease in over-utilization of limited medical services and subsequent cost savings throughout the health system.

Moorpark Medical Home: In September 2010, substance use services were integrated into the medical home clinic to provide a more coordinated model of care in one setting. Moorpark has three (3) clinics: two remain standard primary care clinics, while the third was designed as a medical home. All three clinics are housed in the same building. In September 2010, the medical home clinic was initiated to add specialty care, including MH and SUD services to provide a more coordinated and integrated model of care in one setting. The Moorpark Medical Home will add specialty care including an LCSW who is dual-diagnosis proficient — i.e., who specializes in the treatment of substance use disorder and mental illness. This person will be located on site. Referrals to the LCSW will come from the medical staff for patients who have a positive SUD screen using the CAGE-AID. The LCSW will then assess for severity of addiction and determine a disposition using the ASAM PPC 2-R. If indicated, a brief intervention will be provided on site. If the severity of the addiction is beyond brief intervention, the patient will be referred out to the substance abuse treatment system of care. In this case, the LCSW will serve as case manager and will interface between the SUD treatment provider and the Moorpark medical staff. Medical staff screen and refer to the on-site addiction specialist for full assessment, brief intervention and referral to treatment, if needed. In addition, MDs are trained in motivational interviewing.

Alexian Integrated Care Project: In 2009, Alexian methadone clinic was closed due to budget cuts, and it became a primary medical clinic called the Valley Homeless Project. In 2010, the Santa Clara County Board of Supervisors voted to restore the Alexian methadone program, now called the Alexian Health Clinic. The county wishes to restore the methadone program in an integrated way with the Valley Health Homeless Project (VHHP) because the two services have many patients in common. They are co-locating primary medical care and addiction medicine. The program addresses medical needs for those with SUDs and physical health co-morbidities. Cross training is provided to addiction medicine medical staff and primary care providers.

San Bernardino – Telemeeting (7/27/11)
Presenters:

- Dianne Sceranka, Veronica Camacho, Daniel Peters

The County of San Bernardino Departments of Behavioral Health and Public Health partnered with Arrowhead Regional Medical Center in 2007 to bring integrated behavioral health care into county primary care settings (Integrated Health Program). Initially, the integration effort in San Bernardino County started with MH in PC settings and then grew to include substance use disorder treatment in 2010.

The model selected was to co-locate MH services for patients that were being seen in PC. The initial site was chosen for its location as well as space availability to accommodate mental health clinicians. The program is staffed with a Licensed Clinical Therapist and a Social Worker / Case Manager who provide brief, solution-focused therapy and case management to clients that are experiencing low level MH issues that would not qualify for receipt of services in the Specialty Mental Health Clinics because they are not seriously and persistently mentally ill. In 2009, this integration effort was enhanced to provide a better linkage to a higher level of care. The Department of Behavioral Health relocated one of their specialty Mental Health Clinics to this same primary care site, which currently addresses MH needs. The clinic became dual certified and provides Specialty Mental Health as well as alcohol and drug services.

In 2010, the Integrated Health Program expanded further by providing embedded services into a second Primary Care Clinic. Within this second site, a new initiative surfaced around addressing prescription medication abuse while managing pain issues in the primary care setting. Both SUD and MH services are provided, with an added component of assessing for early emotional trauma co-morbidities. This Comprehensive Pain Management model within the primary care setting provides a unique opportunity to address the needs of a specialized group of people struggling with SUDs. Comprehensive Pain Management focuses on not escalating doses, reducing use, and tapering off the use of opioids for nonmalignant pain, and includes the use of the Trauma Resiliency Model to reduce the incidence of patients with acquired dependence on prescription opioids. In order to facilitate health care integration through successful "warm hand offs," San Bernardino County relies heavily on team building, regular case collaboration, and communication among clinical staff from each discipline.

<u>Riverside – in-person meeting (9/28/11)</u>
Presenter:

- Karen Kane

In preparation for national health care reforms in 2014, Riverside County has initiated several programs, including three offering integrated services:

Mental Health Services Integrated within Rubidoux Public Health Clinic (FQHC Look-Alike): After months of planning, an integrated Public Health Clinic opened in September 2011 in Rubidoux (just west of the city of Riverside). This is a grant-funded project, as the clinic is not an FQHC. They expect to get FQHC approval in the future. The program was created after data revealed that co-occurring disorders (CODs) clients were dying at an average age of 48 years and many mentally ill individuals showed signs of untreated health issues. The program goal was to identify and link MH clients to physical health care. They also want to link physical health

clients to MH care, including prevention, e.g., by providing post-partum depression information and education for pregnant women. Although licensed staff was preferred for the program, initially two bi-lingual MFTs were hired (MH clinicians). There was a minimal supply of LCSWs in the local employment pool. A psychiatrist was hired at 20 hours per week (across 3 days).

Targeted patients included those within the MH system who had two or more physical health problems and who were not engaged with a primary health care provider, as well as those who needed management of integrated health problems. The CRAFFT tool was used to screen patients for substance use. Patients receiving a certain score were referred to substance abuse treatment services. The MH clinician would see clients in an exam room in the public health clinic. Nurses from other doctors bring clients to the MH clinician if a doctor is prescribing a psychotropic drug. Upon an acute crisis, the clinician and/or psychiatrist see someone immediately if they are available. The grant from Riverside Health Foundation covers the costs of the psychiatrist and a limited amount of physical health set-up costs. The plan was to bill Medi-Cal for lab services. Most of the clients served within the Mental Health Clinic are eligible for Medi-Cal (although some MH clients did not want to move to a Public Health Clinic for services).

The program is tracking all services provided during the grant period so they can investigate billing realities. They have learned that the medical model at the Public Health clinic is very different from the MH model; they involved two different work styles and languages. This has required patience, tolerance, and openness in order to merge the two cultures. Dysfunction existed in each system. As one staff person noted, "We know we have it – we just don't talk about it. We don't know all the hidden rules in the other system."

Blaine Street Mental Health Clinic: Public Health provided a nurse practitioner (NP) who was bilingual and experienced in public health to work in the MH clinic. MH clients have high rates of obesity, cancer, high blood pressure, and diabetes. This co-located strategy allowed for the clients to have onsite services. They set up a primary health care exam room —as described by the NP (at a cost of approximately $35,000), which included a lab room for supplies and to collect specimens. This required specialized equipment including a phlebotomy chair, more refrigerators, urine test cart, microscopes, slides, ear scopes, etc. The focus was on basic physical health care prevention and education services: birth control, STD education and testing, and women's reproductive health care (for women age 40 and older).

A critical first step was to establish the relationship between the NP and the MH clients. In addition, it was important to educate MH staff on red flags or signs of physical issues and the importance of integrated care for these types of cases. In the first two weeks of the added emphasis on physical health care, there were two medical crises identified that the employees had not been aware of that required referral to the emergency room. In time, the MH staff became more comfortable with physical health issues. When clients showed initial hesitation to switch to the new service, clinicians found introducing the clients to the NP in the hall helpful—to allow an interaction. Once they met the NP, they were very likely to keep the next appointment.

Suboxone Treatment by Primary Care Physician

Drug Manufacturer's Protocol:

Requires three months of Suboxone, on a step-down basis, plus 3 months of simultaneous substance abuse counseling, followed by one month of Naltrexone, if needed. The county requires a 4-month outpatient substance abuse treatment program.

Procedure in place:

The doctor, pharmacist, and treatment center are working together. The doctor identifies Drug Medi-Cal eligible clients in his private practice, and writes a prescription that the patient takes to a specific pharmacy. The pharmacist calls the doctor prior to filling the prescription for verification from the doctor that client is obtaining SUD treatment. The doctor's nurse checks with the SUD clinic weekly to see if the patient is keeping appointments. Sometimes, if there are problems, the nurse visits clients at the treatment site. The pharmacist calls the doctor to approve refills of prescriptions for each additional 30 days.

Outcomes (as of September 2011):

Treated 8 clients; 3 clients have completed the program. No drop-outs.

Drugs of choice among treated clients: Oxycontin and Norcos

<u>San Diego – in-person meeting (9/28/11)</u>

Presenter:

- Susan Bower

San Diego has been on the integration path for some time now; they have been doing SBIRT for about 20 years. The SUD and PC integration program in San Diego can be viewed at three levels. The first level involves universal screening with SBIRT: anyone who walks in the door is screened, and early intervention is provided for those at risk by health educators or peer educators. The second level involves people in treatment in order to diagnose and manage physical health issues. The third level focuses on people in recovery and their continued care maintenance.

San Diego is using the paired clinic model, in which a MH or SUD clinic is paired directly with a PCP. The county also has a pilot project (SAMHSA grant) to co-locate primary care staff within a mental health clinic. Another project involves Mental Health Services Act (MHSA, a.k.a. "Prop 63") innovation funds to provide MH/SUD staff in a primary care clinic to provide screening and early intervention (SBIRT, depression, anxiety).

San Diego has also held two integration summits convened by the Council of Community Clinics and paid for with MHSA funds. During the first Integration Summit in 2010, they learned that they needed to develop a better approach in order to make change happen. This led to the development of Integration Institute: Learning Communities. The goal is to enhance intra-organization integration and to achieve inter-organization integration of PC, MH, and SUD services. Agencies that participate designate 2–3 senior-level staff that commit to a 9-month program that includes: 3 in-person one-day meetings, 6 one-hour Webcasts/coaching sessions, pre- and post-integration needs assessments, Memorandums of Understanding (MOUs) to form

paired relationships, and completion and execution of individualized change plans around Integration and Change Management.

The 2nd Annual Integration Summit was held on September 20, 2011. It was convened by the Council of Community Clinics and paid for with MHSA funds. There was a large turnout, including diverse representation from PC, SUD, and MH.

The biggest challenge to integration was reported to be that PCPs are very uncomfortable asking MH- and SUD-related questions. Increasing the comfort level of providers was a priority. If an MH and/or SUD problem is identified, then the patient is referred to a program. There must be a formal relationship in place for these referrals to take place. MOUs/MOAs between substance abuse treatment programs and primary care providers are being put in place to formalize the referral process. Referral forms are available to the primary care providers, and program contact information is provided. It was determined that the form must be easy to use, and 42CFR Part 2 confidentiality concerns must be addressed by obtaining consents to release information from the patients. Time and resources are always a challenge, and flexibility and adaptability were found to be crucial when working with PCPs.

<u>Merced – Telemeeting (10/26/11)</u>
Presenter:

- Manual Jimenez, Tabatha Weeda

Merced County serves about 256,000 clients. The county is beginning to co-locate services within primary care settings. Merced County has staff co-located on site at a primary care facility to work with physicians, nurses, and their patients to conduct screening and referral for SUD services. After receiving support from their psychiatrists and more buy-in, they began with an SUD counselor at the clinic for 20 hours per week. The program is using a Behavioral Health Screening Tool, and they have trained the physicians on how to use it. A considerable amount of time has been spent training the physicians on the signs/symptoms of SUDs and how to use the screening tool. The front desk staff gives out the screening tool to all patients seen in primary care. The MH and SUD forms that they use are not in patient medical records. The charts are kept separate. The procedure being implemented is as follows: The patient is given the screening form; the physician reviews it; patients that need follow-up are flagged; the SUD counselor is paged and the physician provides a warm hand-off. Sometimes the patient speaks with the SUD counselor in the exam room or they are taken into the counselor's office. Patients provide consent to release information. The goal is to provide small groups at the clinic (group therapy and psych-education groups) in the future. It has been a long process to get the staff on board. The staff at the clinic were used to referring-out for SUD services.

The county also has probation co-located with the children and adult SUD judicial team. This provides a one-stop shop for clients to see their probation officers before or after their treatment appointments. MH and SUD staff are co-located at juvenile hall to provide SUD and MH services and facilitate a warm hand-off when clients are released to the community.

Orange – Telemeeting (10/26/11)
Presenter:

- Brett O'Brien

Orange County is working on a bi-directional care project. Funded through MHSA, the program is a unique public/private partnership between a community clinic, substance abuse provider, and mental health provider. They have four sites: two FQHC and two FQHC look-alikes. The Behavioral Health (BH) Team consists of two peer counselors, a psychiatrist, and a BH therapist at each site. The peer counselors provide home visits, outreach, nutrition education, smoking cessation, and medication compliance. The BH team and primary care team meet one time per week for case coordination of services. The integrated health care model used in the program aims to address the unmet needs of patients by providing a coordinated team of SUD, MH, and PC professionals under one roof. They have encountered many challenges, including: (1) Registry: the development of a patient registry is costly. They need one that suits their needs and allows for information sharing across agencies, and (2) Confidentiality: 42CFR and HIPAA regulations have been a hurdle. Currently, information can be shared between different agencies.

Orange County is also working with UCLA ISAP to train and "coach" at five FQHCs and/or mental health agencies funded to provide fully integrated health care and behavioral health. Several motivational interviewing (MI) and SBIRT trainings have been scheduled for providers working on these projects. For physicians, training is provided at their monthly resident luncheon. Ongoing coaching services (on site 2–3 days per week) will be provided to the behavioral health staff to ensure they are effectively creating integrated teams. A screening tool was established with nine questions addressing anxiety, depression, alcohol, drug, and domestic violence. Memos of understanding will be set up and work flow is being developed.

Butte – Telemeeting (10/26/11)
Presenter:

- Scott Kennelly

Butte County has established a memo of understanding with an FQHC, Ampla Health. Ampla FQHC has embedded mental health staff in the clinic one day a week. This was a slow process as the relationship between mental health and the FQHC was not easy. Lines of communication needed to be opened and information-sharing was challenging at first. Primary care doctors were hesitant to see MH and SUD patients since they had more severe conditions and required longer appointment times. Time is valuable and not plentiful for the doctors. They started with a small pilot project of 10 patients (10 BH, 10 PC) and this helped identify and work-out the problems. A common referral form (psych questions included) was created. However, information-sharing was challenging due to differing electronic health records and the losing of added paperwork. Ongoing meetings were established quarterly to smooth out issues. Making psych staff available to the primary care staff was critical, and setting up appointments helped with the patient flow. The county has been working to develop a similar design in the Chico area.

Los Angeles – Telemeeting (12/14/11)
Presenter:

- Desirée Crèvecoeur-MacPhail, Ph.D.

Center for Community Health (CCH) Process Improvement Project
Process Improvement is a series of actions taken by owners or operators to improve business. The key to process improvement is the inclusion of those who work for or otherwise "run" the organization. Customers are served by the *processes;* 85% of the customer-related *problems* are caused by organizational *processes.* To better serve customers, organizations must improve processes. Small organizational changes can increase client satisfaction, which will increase the likelihood of clients showing up and continuing their treatment. More admissions and fewer dropouts improve the bottom line.

The CCH is a state-of-the-art facility designed to provide PC, MH, and selected SUD treatment services to the homeless population that occupies the Skid Row area of Los Angeles. During fiscal year 2009–2010, CCH provided primary health care services to approximately 9,000 patients. Approximately 1,500 received MH services and a similar number received HIV-related services. However, fewer than 100 individuals were assessed for substance use or abuse problems and none attended the group treatment sessions available onsite. To address these issues, LA County's Substance Abuse and Prevention Control (SAPC) and UCLA ISAP worked with the staff of CCH, Homeless Health Care, and Volunteers of America to examine the agency processes and structure to ascertain ways to increase patient participation in assessments, referrals, and on-site treatment.

Identified issues interfering with integration included:

- Different departments within CCH did not know of the existence of the other and medical staff did not know that the SUD treatment was available on-site.
- Doctors and other medical staff were not referring patients to staff for assessment, referral, or treatment.
- There was a need for improved ways to motivate patients to attend group-counseling sessions and seek SUD treatment rather than just coming in for primary care.
- There was a breakdown in the feedback loop between the substance use disorder assessment, referral staff, and doctors.
- There was a need for additional information on the link between SUD and poor health outcomes.

Proposed solutions included:

- All staff were informed of the availability of assessment, referral, and on-site SUD treatment.
- Motivational interviewing training was provided for all staff to give providers additional tools to help with patients who are resistant to treatment.
- SUD assessment staff had to post their hours on the door of the assessment office, and they posted a return time if they had to step out.

- To motivate patients to attend group counseling sessions, the doctors provided raffle tickets to patients to attend meetings; raffle tickets were also provided at the door of the counseling sessions. Refreshments were also provided at the counseling session.
- To increase staff communication, staff members were instructed to fill out a disposition form that noted what happened if and when the patient showed up for assessment. The form also noted information regarding what the next steps were in the treatment plan.
- UCLA provided SUD treatment staff with educational pamphlets on substance use, substance use and health, prescription medication misuse, etc.

As a result of these activities, great improvements were noted over a 10-month period in group counseling attendance and assessments/referrals rates. The process improvement work conducted at CCH over the course of about 5 months resulted in significant improvements in the utilization of the SUD treatment services available onsite. Given the desire to increase the number of assessments/referrals and the utilization of the onsite group counseling sessions, process improvement was successfully used to enact small changes to address, and potentially improve, the outcomes in these areas. Increasing the opportunities for CCH patients to obtain treatment for SUDs will serve to increase the success of other medical treatments and reduce the exacerbation of certain disorders due to the consumption of alcohol or illicit drugs. With this project, it was demonstrated that with a focused effort and some creativity, despite limited funds, a problem that had plagued the system for over a year could be resolved, resulting in better treatment for patients.

Additional LA County activities

Los Angeles County Vivitrol Pilot Project
Presented on 1/25/12

Vivitrol is the injectable form of naltrexone, an opioid receptor antagonist that acts by blocking the mu-opioid receptors in the brain. These receptors are responsible for the "high" or "buzz" individuals feel when alcohol is consumed. When the receptors are blocked, the "high" or "buzz" is no longer achievable and cravings for alcohol are reduced significantly. This paper documents results from a pilot project in Los Angeles County to administer Vivitrol in three large, publicly funded treatment organizations in Los Angeles County. The pilot was designed and implemented by the Los Angeles County Department of Public Health, Substance Abuse Prevention and Control (SAPC). Data regarding the amount of medication doses administered, clients' urge to drink, side effects, treatment utilization, and treatment outcomes indicate the following:

- Out of the 399 individuals who were provided Vivitrol, 41.1% have taken a single dose thus far. An additional 22.6% participants were administered a second dose, 12.3% had a third dose, and almost 25% had four or more doses.
- Clients' reported urge to drink decreased significantly over the course of the first month in treatment. The mean score at baseline was 19.3, which decreased to 9.8 in Week 2, 7.6 in Week 3, and 6.6 in Week 4. A score of 10 or more is a sign that the person is in danger of relapse.

- Of the clients who received at least one dose of Vivitrol, 60.2% were in active treatment when Vivitrol was administered, 12.7% were in detoxification, and 27.1% had received Vivitrol but were not active in treatment within the county-contracted system during the time the doses were administered.
- The majority of clients (91.6%) who were admitted to detoxification and were administered Vivitrol, completed the detoxification episode. This is significantly greater than the county average for completed detoxification episodes (76.5%).
- Clients in outpatient counseling who received Vivitrol reduced their primary drug use from a mean of 11.7 (SD = 8.9) days in the 30 days prior to admission to 1.3 (SD = 4.9) days during the prior 30 days at discharge.
- Treatment engagement was better for outpatient counseling clients in the Vivitrol pilot (88.2%) as compared to the county average (79.6%), as were treatment completion rates (46.6% compared to 32.9%).
- Clients in residential treatment who received Vivitrol reduced their primary drug use from a mean of 13.8 (SD = 8.8) days in the prior 30 days at admission to 0.9 (SD = 4.3) days during the prior 30 days at discharge treatment.
- Treatment engagement was also better for residential clients in the Vivitrol pilot (94.3%) as compared to the county average (64.2%), as were the treatment completion rates (64.1% compared to 39.2%) for residential treatment.
- Although there was no difference in retention rates for clients in outpatient counseling (mean days in treatment), retention rates were higher for clients in the Vivitrol group participating in residential treatment (121.3 days), compared to the county average (78.2 days).
- The most common side effects reported for Vivitrol included fatigue, headache, injection site reaction, and nausea. The proportion of clients reporting these side effects differed over the first 4 weeks of treatment, with side effects reaching a high point in Week 2, with 22.4% reporting fatigue, 18.7% reporting headache, 19.2% reporting injection site reaction, and 15.7% reporting nausea. As of December 2011, only 12 clients (3%) have stopped taking the medication due to side effects.

Overall, the Vivitrol pilot in Los Angeles County substance use disorder treatment programs proved to be quite successful at increasing the number of clients who completed treatment in detoxification, outpatient counseling, and residential treatment programs. Vivitrol also appeared to decrease substance use among outpatient counseling and residential treatment clients, increase treatment engagement among outpatient and residential clients, and increase treatment continuance for residential treatment clients. However, more research is needed to determine the long-term effects of Vivitrol (i.e., do the cravings go away for good or do they return, and if so, are they at the same level?). Furthermore, limitations to the findings in this report include the population under study. A more varied population would add additional external validity to the findings.

Telepsychiatry at the Antelope Valley Rehabilitation Center (AVRC) in Acton, CA

Since April 2011, UCLA ISAP has partnered with the County of Los Angeles Department of Public Health, Substance Abuse Prevention and Control (SAPC) office to provide telepsychiatry services for inpatient substance use disorder clients admitted to the county-operated Antelope Valley Rehabilitation Center (AVRC) in Acton, CA. Telemedicine is defined as "the practice of

health care delivery, diagnosis, consultation, treatment and transfer of medical data and interactive tools using audio, video and/or data communication with a patient at a location remote from the provider" and has been in use for over 20 years. As technological advances rapidly develop, so too has the development and expansion of telemedicine, which encompasses a number of medical disciplines including Telepsychiatry/Telemental Health. Telepsychiatry has been practiced within the University of California (UC) system since the late 1990s, and since 1996, UC Davis has provided over 5,000 clinical consultations and has been awarded 10+ grants in this area. This project is the first of this nature between UCLA and Los Angeles County.

The AVRC is located in the high desert of Los Angeles County, where access to psychiatric services is limited due to the remoteness of the facility. Through this project, UCLA ISAP psychiatrists provide services related to substance use disorders and other mental health issues to AVRC patients one day a week using a secure Web-based, mobile telemedicine cart and accompanying software. The freestanding cart includes a direct computer connection to the Internet, a high definition camera, and a high quality microphone. This system allows the psychiatrist and patient to clearly see and hear each other. Once the psychiatrist meets with the patient, they make notes that are stored with their UCLA patient record and copies are sent via a secure line to the medical personnel at the Acton facility for placement in the patient's AVRC file. Prescriptions are written by the UCLA psychiatrist and filled at a local Acton pharmacy.

As of December 2011, 42 unique clients have been seen. Most patients have had a number of follow-ups and depending on their needs, some are seen on a weekly basis. Using a low-cost medication formulary, psychiatrists prescribe psychotropic medications for a number of issues including depression and anxiety. As a result of the low-cost formulary and increased medication management, more patients are now able to incorporate psychotropic medications into their treatment.

So far, this project has resulted in a number of positive outcomes including reducing the access barrier for those in remote areas and increasing efficiency for the AVRC and UCLA systems. We hope that improved mental health outcomes will be noted as a result of the continuous care. Other potential benefits include opportunities for enhanced cultural competency (i.e., increased interaction with traditionally underserved ethnic groups). This project has been well-received by UCLA staff and AVRC patients and staff alike. Future efforts include possible expansion of activities, such as additional hours of services.

<u>Kern County – Telemeeting (2/22/12)</u>
Presenters:

- Lily Alvarez
- Darren Urada (UCLA ISAP)

Kern County's Project Care is an innovative program aimed at integrating MH/SUD services in five Federally Qualified Health Center (FQHC) locations and one hospital outpatient clinic. During the ILC meeting held on February 22, 2012, Lily Alvarez discussed Kern County's demographics, goals of behavioral health integration, and the implementation of the integration

project (Project Care). Darren Urada later presented the evaluation plan and early evaluation results.

Kern County is very large (approximately 8,500 square miles), which requires that the service delivery system be organized to reach outlying areas. In Bakersfield, the primary industries are oil and agriculture, and the unemployment rate is 32% in one community. Kern County's population is also very diverse (one community is 80%–90% Hispanic while other communities are the opposite, with 60%–70% White residents). The mental health system of care consists of crisis and residential services (five clinics, 31 physicians, eight contracted providers). The substance abuse system of care consists of traditional outpatient care in regional areas, with inpatient care handled in Bakersfield (14 clinics, including inpatient and methadone). There are 27 FQHCs in Kern County.

Kern County Mental Health (KCMH) is working with FQHC partners to implement an SBIRT-type model in primary care settings (Project Care). Using MHSA funds, Project Care provides select MH and SUD screening and treatment services within the primary care facilities. Referrals to specialty care are made when appropriate. Project Care's funding facilitates "warm hand-offs" (i.e., the primary care provider directly introduces the client to the MH/SUD provider) by allowing providers to be reimbursed for providing two services in the same day (e.g., for a physical ailment and an SUD), unlike other primary care sites in California that rely on Medi-Cal (Medicaid) reimbursement. Project Care aims to promote integration through regular meetings of case managers, use of electronic registries, use of evidence-based practices, and required administrative meetings, practitioner networking, and trainings.

The goals of Project Care are to provide universal screening of all adult clients coming to the clinics. Three screening instruments are used (PHQ9, GAD7, and Audit-C+). Brief interventions are delivered onsite and include SUD assessment and MH solution-centered treatment (using the Assist Model and Motivational Interviewing techniques) that take place over 6–10 visits. Integrated case conferencing with the physician, psychiatrist, and behavioral health staff are mandatory and Project Care uses data to monitor progress.

Being in the forefront of providing integrated care, Lily Alvarez and the Project Care staff have found that creating a safe learning environment where people can discuss and share has been an important first step. Monthly provider meetings have also ensured the success of the project.

The involvement of the physicians is crucial and the project has contractual requirements for case conferencing. Project Care has also hosted trainings for their providers that have involved an evening session with dinner and CMEs for physicians (physicians do not have the time available to attend all-day sessions).

During the process of implementing the project, they have also encountered several barriers to integration, which include the fear of recognizing the SUD patient (universal screening is scary to some providers), filling in the medical record (where and what), and charting in the medical record. They have been struggling with creating a new category in the medical record, which has restricted access, and since the clinics are all using different systems-information exchange, this

has been a challenge (including the challenges when exchanging health information and 42 CFR Part 2).

Kern County has contracted with UCLA to provide program evaluation services of Project Care. The evaluation component consists of administrative data analysis, measures of the level of integration at each clinic using the Dual Diagnosis Capability in Health Care Settings (DDCHCS) tool, qualitative interviews, and staff satisfaction surveys.

UCLA has been working with the three organizations to obtain administrative data (data now collected by each of the participating organizations as a part of their routine care) on the number of people screened, their scores, the number assessed, treated, and referred. When fully implemented, this data will be generated by each organization using i2i registry software . This i2i software will aggregate individual patient-level data from their NextGen electronic health record (EHR) system to regularly produce automated and customized aggregate reports that NextGen itself does not have the capacity to create. However, all three of the organizations are in various stages of transition to the new EHR system, which has delayed installation of i2i. When i2i is functional, the organizations will be able to produce their own reports on a regular basis, but in the meantime, UCLA is obtaining raw data and is looking into ways to use statistical software such as SAS to produce occasional (possibly quarterly) reports for the organizations until i2i can be installed.

Preliminary results (dated February 22, 2012) showed the prevalence of depression to be 42% in the population. The prevalence of thought disorders was 2% and the prevalence of anxiety was 43%. The prevalence of alcohol and drug misuse was 13% of the clinic population, 95% of whom were Hispanic (80% prefer Spanish).

The Dual Diagnosis Capability in Healthcare Settings (DDCHCS) tool was designed to measure the degree of primary care, substance use disorder, and mental health integration within health care settings, and as such, was adopted as a key measure for the evaluation. DDCHCS administration requires an in-person site visit, inspection of the site and records, and interviews with multiple staff members. UCLA conducted DDCHCS visits with all Project Care sites in 2011. While subscale variations were found between organizations, all three had overall scores in a relatively narrow range between 3.0 and 3.8 on the 5-point DDCHCS scale, indicating a moderate level of integration. UCLA is currently in the process of conducting a second round of DDCHCS visits. The follow-up data being collected will be compared to the 2011 data to determine what changes have occurred in the approximately 1 year since the previous DDCHCS visits.

Staff satisfaction surveys were administered to mental health/substance use disorder staff, support staff, and primary care providers from all three organizations. The survey used was adapted from surveys developed by the Integrated Behavioral Health Project (http://www.ibhp.org). Survey results suggested that integration and MH/SUD services were highly valued at the Project Care sites that were studied, and that staff were uniformly interested in further MH/SUD training. However, there were significant differences in the way staff perceive current processes, particularly communication. A second round of surveys was

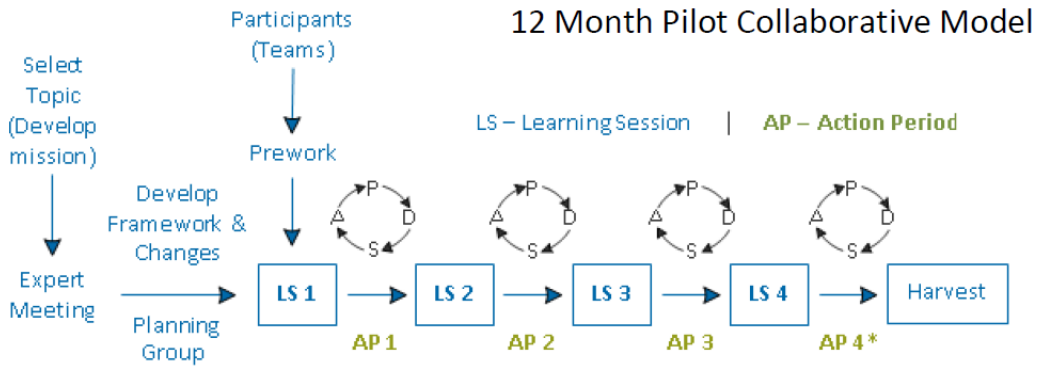
collected in June and July 2012 and will be analyzed by UCLA to determine how staff perceptions have changed over time.

C. California Institute for Mental Health (CiMH) collaborations

The California Institute for Mental Health (CiMH) was established in 1993 to promote excellence in mental health services through training, technical assistance, research, and policy development. Local mental health directors founded CiMH to work collaboratively with all mental health system stakeholders.

Work in the mental health and SUD fields has not always been well coordinated, even as attention is turned to integrating services to better serve patients. In an effort to address this, UCLA has begun coordinating efforts with CiMH. This collaboration was bidirectional: CiMH representatives are regularly invited to and do participate in the monthly UCLA/ADP Integration Learning Collaborative sessions described in previous sections, and UCLA has also been an active participant in the CiMH Care Integration Collaborative (CIC) since February 2012. The following is a description of this CIC.

The image below, taken from the CIC's pre-work manual distributed to participants, illustrates the model being used by the CIC, which itself is adapted from work by The Institute for Healthcare Improvement (IHI, 2003).



Adapted from The Breakthrough Series: IHI's Collaborative Model for Achieving Breakthrough Improvement

The CIC currently consists of five teams of county partners from the local Medi-Cal health plan, primary care, and specialty mental health and substance use disorder agencies. Participating counties are Los Angeles, Napa, Nevada, Orange, and Riverside. The goal of the collaborative is for county partnership teams to explore new service delivery models and make changes to achieve better health status for individuals living with serious mental illness and/or substance use disorders as well as cardiovascular disease, diabetes, and/or metabolic syndrome. As illustrated in the figure above, a key part of this effort is the use of Plan-Do-Study-Act (PDSA) cycles, which illustrates a convergence of methods with past SUD quality improvement pilots by organizations including NIATx and UCLA.

During the 1-year duration of the CIC, partnership teams are to participate in a kickoff and pre-work period, and then four learning sessions. Throughout, they will maintain regular contact with each other and CIC leadership and faculty through e-mail, a Website, conference calls, and site visits. In early 2013, participating CIC organizations will share what they have learned about changes (what worked/and what changes were not as effective) and achievements at a final convening, called the Harvest.

UCLA's coordination with the CIC has included participation by UCLA on an approximately weekly basis in either CIC Planning Group calls or "Action" meetings with the participating counties. Dr. Urada also served as a presenter and moderator on SUD topics at the most recent Learning Session and is providing suggestions for SUD-related speakers for the next Learning Session.

UCLA plans to continue to invite CiMH to participate in future Integration Learning Collaborative calls and to participate in CiMH's CIC. UCLA also plans to consult with CiMH while carrying out other SUD integration efforts. These activities will not only continue to provide ADP and UCLA with an opportunity to learn how other collaboratives function, it will also ensure that we do not create duplicative efforts. For example, UCLA plans to target different counties or organizations that did not participate in CIC for future ADP-funded integration pilot work. Also, both UCLA and CiMH have conducted integration-related surveys of the County Alcohol and Drug Program Administrators' Association of California (CADPAAC) members in the past, so going forward we will try to coordinate with CiMH to ensure we do not duplicate efforts or see if we can find synergy for future data collection (e.g., a combined MH-SUD survey instead of two separate ones). More generally, we believe the UCLA-CiMH collaboration has and will continue to be helpful to both organizations, and intend to keep an eye out for future opportunities to collaborate where our integration efforts and goals converge. UCLA will discuss such opportunities with ADP as they emerge.

D. Strategic Planning Principles

As the SUD service delivery system is shifting, strategic plans at the state level require re-evaluation. Under direction and with guidance from ADP, UCLA has worked to identify strategic planning principles and recommendations, with an emphasis on workforce development, in an effort to assist ADP prepare for the changes ahead and guide the future development of an integrated drug treatment delivery system in California over the next 5 years. A full investigative review, including literature reviews, stakeholder consultations, and evaluations of California and other states' strategic plan developments, has been conducted. Objectives for this report will include:

- Description of the changing environment/landscape of health care delivery and factors that impact the design of future services
- A review of current MH-SUD-primary care integration models and initiatives
- Current challenges facing SUD specialty care
- Workforce issues related to integration of SUD and primary care
- SUD specialty care workforce considerations

- Framework for building an SUD workforce of the future
- Recommendations and timeline

A full summary of this work will be detailed in a formal report to ADP (see Appendix 2.3).

E. Training and technical assistance

Trainings and technical assistance were conducted throughout California from July 1, 2011–June 30, 2012, on topics relevant to integration. Below are descriptions and objectives for each topic followed by a list of activities conducted. Event materials can be found on the website provided in Appendix 2.4.

Integration Strategies

In March 2010, President Obama signed into law historic health care reform legislation that will extend insurance to currently uninsured and under-insured Americans. The ACA supports previous legislation requiring that substance use disorder and mental illness benefits are on par with those for medical illnesses. The new policies outlined in the ACA are likely to dramatically change how substance use disorders (SUDs) treatment is funded and the types of services that are reimbursable. The SUD treatment and recovery workforce will need to learn additional skills to navigate a much broader primary health, substance use disorders, and mental health care system. This training examined key components of the ACA and how SUD treatment practitioners can alter their practices to be most responsive to patient needs. Questions and concerns practitioners may have regarding health care reform were addressed, and several specific models and strategies for providing integrated behavioral health and primary services were presented.

Working in the Health Care System

Facilitating coordinated care between the primary health and the substance use and mental health disorders treatment systems requires an understanding of the most common medical issues associated with misuse of substances. This training focused on identifying symptoms of medical conditions associated with and the medical consequences of alcohol and other drug use. The training helped behavioral health providers to develop strategies and language for communicating and coordinating care with medical providers to facilitate integrated care. Information is provided on primary care service delivery systems, including managed care systems and FQHCs and other community health centers.

A similar training tailored to physicians, nurses, and other medical providers included information on how substance use disorders may be an aggravating or underlying cause of common medical problems, and how physicians might think about encouraging their patients to address their substance use issues in those cases. In addition, the training helped physicians, nurses, and other medical providers to develop strategies and language for effectively communicating and coordinating care with behavioral health providers to facilitate integrated care. The training provided an overview of strategies medical providers can use to connect at-risk patients with necessary behavioral health services.

Screening, Brief Intervention and Referral to Treatment (SBIRT)

Screening, brief intervention, and referral to treatment (SBIRT) is effective in a variety of settings. Its effectiveness has been proven particularly in hospital emergency departments and trauma centers treating individuals with alcohol-related injuries. SBIRT has also been shown to be effective in primary care settings, where it is incorporated into other routine medical assessments such as measuring blood pressure. A major focus of the daylong training was on a detailed review of key motivational interviewing concepts and principles that are tied to effective use of the FLO (Feedback; Listen and Understand; Options Explored) brief intervention. Core clinical components that were covered included: (1) brief intervention to raise awareness of risk and motivate change; (2) brief treatment for patients seeking help; and (3) referral to treatment for patients with more serious SUD-related problems.

Medication-Assisted Treatment (MAT)

The purpose of this half-day training was to provide participants with a detailed overview of medications that have been shown to be effective as a component of the treatment of alcohol and opioid addiction. Topics included the context for medication-assisted treatment (positive and negative perceptions), the epidemiology of alcohol and opioid dependence, an overview of each medication (its indication, to whom it is administered, and how it works), and treatment settings for medication-assisted treatment. Medications discussed included naltrexone, acamprosate, disulfiram, methadone, and buprenorphine.

Motivational Interviewing (MI)

Motivational interviewing, a treatment approach developed by William Miller, has been well established as an effective way to promote change in individuals. This evidence-and-consensus-based technique has been shown to elicit change in behavior and attitudes by helping clients to explore and resolve their ambivalence about substance use. This training workshop provided participants with a fundamental understanding of motivational interviewing and specific techniques for promoting behavior change.

Prescription Drug Abuse Problem

This training provided a detailed overview of the epidemiology of prescription drug abuse and its impact, including the extent of the problem and demographics of those affected. Three major categories of prescription drugs (e.g., opioids, stimulants, and sedatives/tranquilizers) were compared and contrasted to help participants understand why people use each class of drugs and how the effects of these drugs differ. The session concluded with a comprehensive review of various prevention approaches and evidence-based treatments, including behavioral therapies and medication-assisted treatment.

Ethics and Confidentiality

This training introduced participants to the confidentiality and ethical issues associated with the provision of treatment for substance use disorders, as well as strategies that can be used to best deal with client crises and difficult patients clients/patients.

List of Trainings and Technical Assistance Provided
July 1, 2011 – June 30, 2012

Name of Training/ County or Agency	Location/Date of Training	Trainer(s)	Number of Participants	Back-up Documents
Integration Strategies				
Substance Use Disorders Training under Health Reform: Welcome to the Health Care System (Women on The Way Recovery Center)	Hayward October 3, 2011	Richard A. Rawson, Ph.D.	13	Agenda and PPT slides
Substance Use Disorders Training under Health Reform: Welcome to the Health Care System (Sonoma County)	Sonoma April 3, 2012	Thomas E. Freese, Ph.D.	189	Agenda and PPT slides
Integrating Behavioral Health into Primary Care (SLO County Health Commission)	San Louis Obispo May 14, 2012	Thomas E. Freese, Ph.D.	12	PPT slides
Integrating Behavioral Health into Primary Care (SLO County)	San Louis Obispo May 15, 2012	Thomas E. Freese, Ph.D., and Beth Rutkowski, M.P.H.	24	Flyer and PPT slides
Integrating Behavioral Health into Primary Care (SLO County MD Evening Session)	San Louis Obispo May 15, 2012	Thomas E. Freese, Ph.D.	6	Flyer and PPT slides
Working in the Health Care System				
Introduction to the Medical System: Facilitating Coordinated Care by Understanding the Medical Issues of Patients with Substance Use Disorders (Kern County)	Kern January 18, 2012	Thomas E. Freese, Ph.D.	103	Flyer and PPT slides
Introduction to the Medical System: Physicians' Role in Facilitating Effective Coordination of Care for Patients with Substance Use Disorders (Kern County MD Evening Session)	Kern January 18, 2012	Larissa Mooney, M.D., and Thomas E. Freese, Ph.D.	25	Flyer and PPT slides

Screening, Brief Intervention, and Referral to Treatment				
SBIRT and MI Training (Central Valley Region/Multiple Counties)	Central Valley Region November 30, 2011	Sherry Larkins, Ph.D.	101	Flyer, agenda, and PPT slides
MI and SBIRT Training (Nevada County)	Nevada County December 9, 2011	Thomas E. Freese, Ph.D.	57	Agenda and PPT slides
ASSIST/SBIRT Training (Los Angeles County)	Los Angeles January 20, 2012	Sherry Larkins, Ph.D., and Joy Chudzynski, Psy.D.	14	Flyer, agenda, and PPT slides
SBIRT Training (Los Angeles County)	Los Angeles March 19, 2012	Joy Chudzynski, Psy.D.	18	Flyer, agenda, and PPT slides
SBIRT Training (Stanislaus County)	Stanislaus March 29, 2012	Joy Chudzynski, Psy.D.	43	Flyer, agenda, and PPT slides
Los Angeles County Annual Drug Court Conference (Workshop on SBIRT) (Los Angeles County)	Los Angeles April 12, 2012	Sherry Larkins, Ph.D.	Approximately 50 across two sessions	Agenda and PPT slides
SBIRT Training (Los Angeles County)	Los Angeles April 17, 2012	Joy Chudzynski, Psy.D.	18	Flyer, agenda, and PPT slides
SAPC Lecture on SBIRT (Los Angeles County)	Los Angeles June 8, 2012	Sherry Larkins, Ph.D.	138	Flyer, agenda, and PPT slides
Medication-Assisted Treatment (MAT)				
Medication-Assisted Treatment for Alcohol and Opioid Addiction (Santa Barbara County)	Santa Barbara December 14, 2011	Thomas E. Freese, Ph.D.	25	Flyer, agenda, PPT slides
ILC on Vivitrol	Sacramento January 25, 2012	Desiree Crevecoeur-MacPhail, Ph.D., and John Viernes	CADPAAC Quarterly Participants	Agenda, summary, PPT slides
Los Angeles County Annual Drug Court Conference (workshop on Vivitrol) (Los Angeles County)	Los Angeles April 12, 2012	Desiree Crevecoeur-MacPhail, Ph.D., and James Barger, M.D.	Approximately 50 across two sessions	Agenda and PPT slides
ILC on MAT	Tele-conference April 25, 2012	Larissa Mooney, M.D.	8	Agenda, summary, PPT slides
Medication-Assisted Treatment for Alcohol and Opioid Addiction (Behavioral Health Services Inc., - Redgate)	Long Beach May 3, 2012	Thomas E. Freese, Ph.D.	22	Agenda and PPT slides

Motivational Interviewing				
Effecting Change through the Use of Motivational Interviewing (BAART Turk Street Clinic)	Oakland November 16, 2011	Thomas E. Freese, Ph.D.	26	Agenda and PPT slides
Effecting Change through the Use of Motivational Interviewing (BAART Turk Street Clinic)	Oakland November 17, 2011	Thomas E. Freese, Ph.D.	27	Agenda and PPT slides
SBIRT and MI Training (Central Valley Region; multiple counties)	Central Valley November 30, 2011	Sherry Larkins, Ph.D.	101	Flyer, agenda, and PPT slides
MI and SBIRT Training (Nevada County)	Nevada County December 9, 2011	Thomas E. Freese, Ph.D.	57	Flyer, agenda, and PPT slides
Effecting Change through the Use of Motivational Interviewing (Friends Community Center)	Los Angeles January 10, 2012	Sherry Larkins, Ph.D.	24	Agenda and PPT slides
Effecting Change through the Use of Motivational Interviewing (Jewish Family Service)	Los Angeles February 9, 2012	Joy Chudzynski, Psy.D.	55	Agenda and PPT slides
Advanced MI Training (Friends Community Center)	Los Angeles May 15, 2012	Sherry Larkins, Ph.D.	12	Agenda and PPT slides
Effecting Change through the Use of Motivational Interviewing (AIDS Healthcare Foundation)	Los Angeles May 15, 2012	Joy Chudzynski, Psy.D.	33	Agenda and PPT slides
Effecting Change through the Use of Motivational Interviewing (Los Angeles County)	Los Angeles May 31, 2012	Joy Chudzynski, Psy.D.	31	Agenda and PPT slides
Effecting Change through the Use of Motivational Interviewing (San Bernardino County)	San Bernardino June 19, 2012	Joy Chudzynski, Psy.D.	AM Session = 20 PM Session = 18	Agenda and PPT slides

Introduction to Motivational Interviewing (Modoc County)	Modoc June 25, 2012	Sherry Larkins, Ph.D.	21	Flyer and PPT slides
Prescription Drug Abuse Problem				
Prescription Drug Abuse (Alameda Medical Center)	Oakland May 24, 2012	Thomas E. Freese, Ph.D.	10 (Conducted for a specific agency, not a county dept.)	Agenda and PPT slides
ILC on Prescription Drug Abuse Problem	Teleconference June 26, 2012	Beth Rutkowski, M.P.H.	25	Agenda, Summary, PPT slides
Ethics and Confidentiality				
Confidentiality Webinar: HIPAA vs. 42 CFR Part 2 (Kern County)	Kern July 11, 2011	Thomas E. Freese, Ph.D.	Unknown (approximately 10)	Webinar instructions and PPT slides
Ethical and Confidentiality Issues and Client Crises in Substance Abuse Treatment (Friends Community Center)	Los Angeles July 28, 2011	Sherry Larkins, Ph.D.	29	Agenda and PPT slides
Ethical and Confidentiality Issues and Client Crises in Substance Abuse Treatment (Fresno County)	Fresno January 27, 2012	Sherry Larkins, Ph.D.	AM session = 100 PM session = 89	Agenda and PPT slides
Ethical and Confidentiality Issues and Client Crises in Substance Abuse Treatment (San Mateo County)	San Mateo April 23, 2012	Sherry Larkins, Ph.D.	38	Agenda and PPT slides
Ethical and Confidentiality Issues and Client Crises in Substance Abuse Treatment (CA Association of Drinking Driver Programs CADDTP Spring Forum Certification)	La Quinta May 4, 2012	Sherry Larkins, Ph.D.	36	Agenda and PPT slides
Ethical and Confidentiality Issues and Client Crises in Substance Abuse Treatment (Lassen County)	Lassen June 26, 2012	Sherry Larkins, Ph.D.	27	Flyer, agenda, and PPT slides

V. Conclusions and Recommendations

Implementing the integration of substance abuse services, mental health services, and primary care requires simultaneous consideration of multiple components (integration models, evidence-based practices, information technology, documentation/privacy policies, billing and reimbursement for services, workforce development). During the June 2011–July 2012 contract period, UCLA, under guidance from ADP, continued to investigate these components and the barriers to integration found in the field, and supported the sharing of information across the counties to encourage collaboration. Although much progress has been made (i.e., initiatives have been established, partnerships have developed, trainings have been conducted, and integration models are being tested), California is still in the early stages of integration, and much work remains.

The "RT" in SBIRT is not happening, and needs improvement. Screening, brief intervention, and referral to treatment (SBIRT) has been one of the more common strategies utilized across the country when initiating integrated care efforts. However, reports from those on the front lines as well as analyses of CalOMS-Tx data (see Chapter 3) indicate that patients are frequently not being referred to treatment outside of primary care. Once a patient is identified with a substance use problem, the likelihood of that patient showing up for the next level of assessment with a different provider is low. One legacy of the traditional "silos" of SUD, PC, and MH care is that a great deal of work remains to encourage the formal forging of relationships between the separate silos, to overcome cultural differences between these organizations, and to establish processes that lead to successful handoffs of patients between them. State leadership can facilitate the removal of barriers, such as separate billing sources (see Drug Medi-Cal and recommendations) and activation of SBIRT billing codes (see reimbursement recommendations).

California should revise the Drug Medi-Cal program in California via a waiver application to CMS. The covered services should be comparable with the Kaiser Small Business benefit plan (with the addition of a full benefit for a comprehensive package of services to support methadone maintenance). The SUD benefit should be integrated into the regular Medi-Cal program and not be restricted to a facility-specific benefit. As part of this waiver, the "one service per day" restriction should be removed from Medi-Cal.

Learn from other states' experiences with health care reform and plan to address reimbursement shortcomings they encountered proactively. For example, in other states, coverage was hampered by individuals losing Medicaid eligibility when they were incarcerated, which will be a common problem for SUD patients in particular. Stakeholders can alleviate this problem by making arrangements to routinely suspend Medi-Cal eligibility in these cases rather than terminating it. Other lessons from other states suggest that to maximize coverage under Medi-Cal, stakeholders should advocate for low co-payment requirements and plan outreach and assistance for vulnerable populations that had problems obtaining coverage in other states, such as the homeless.

Continue to coordinate and facilitate an interactive forum (Learning Collaborative) with county administrators and other key stakeholders to discuss SUD integration. Providing an ongoing forum for county directors and provider organization representatives to discuss current integration issues/obstacles/successes is critical in order to maintain information sharing. Considering the major health reform changes that are coming in 2014 due to the ACA and the accompanying need for greater communication between stakeholders, this type of forum has proven to be an efficient way to share information across the state. Pilot programs can be highlighted, local strategies can be shared, and technical assistance can be provided. In addition, this can be a strategy to incorporate other key stakeholders from various disciplines (MH, PC, etc.).

Engage with counties with minimal integration strategies in new pilot projects to get these counties "off the starting line." In order for California as a whole to prepare for health care reform, it is crucial that all counties are working toward integration. Counties that have not yet made significant headway may need to be engaged and provided with technical assistance to enable them to work through the obstacles hindering their progress. In conjunction with ADP, UCLA plans to initiate such pilot projects in the future.

ADP should consider supporting efforts, where possible, to extend federal EHR incentives to SUD providers. While EHRs are important for integration of services, the SUD health provider community is still a long way from full implementation of effective EHR capacities and strategies, and lags behind physical health providers. In part, this is because, unlike physical health providers, SUD providers have not been eligible to receive funding for EHR incentive funds under the American Recovery and Reinvestment Act of 2009 ("stimulus" funds) or the MHSA (Technical Assistance Collaborative / Human Services Research Institute, 2012). To the extent possible, ADP may wish to consider supporting efforts to extend federal EHR incentives to SUD providers. For example, organizations such as the Coalition for Whole Health are working on this (Coalition for Whole Health, 2011), and there are efforts in Congress, such as H.R. 6043 (introduced 6/27/2012), to extend health information technology assistance eligibility to SUD providers.

Plans for future SUD workforce development should consider the impact of the medicalization of the disease of addiction. In the face of health care reform and the movement toward providing services in the medical setting, the medicalization of addiction services carries with it many implications for training. CASA Columbia recently issued a report that incorporated these implications into recommendations. As ADP develops plans for the future of the SUD workforce, the CASA recommendations, and whether or how local and state leadership can support them, should be considered:

- Incorporate screening and intervention for risky substance use, and diagnosis, treatment, and disease management for addiction into routine medical practice.
- All medical schools and residency programs should educate and train physicians to address risky substance use and addiction.
- Require non-physician health professionals to be educated and trained to address risky substance use and addiction.

- Establish national accreditation standards for all addiction treatment facilities and programs that reflect evidence-based care.
- License addiction treatment facilities as health care providers.
- Require adherence to national accreditation standards that reflect evidence-based care.
- Expand the addiction medicine workforce.

Ongoing research is needed to identify what models for SUD/PC integration are most effective, and which are most appropriate for specific patient populations and treatment settings. Evidence has been built around the benefits of integrated care (improved services, perception of care, cost effectiveness), and it is important to focus on concrete best practices for implementing SUD/PC integration. Research is needed, for example, to determine which practices work best in which particular settings and for which patients.

Ongoing training and technical assistance should focus on needs prior to 2014 and following 2014. The level of preparation for health care reform varies dramatically across the counties. In 2011, UCLA prepared a "Technical Assistance Plan to Prepare the Workforce for Healthcare Reform," addressing needs prior to 2014 and following 2014. Implementation of services under health care reform will be challenging and technical assistance will be needed.

Training and Technical Assistance topics may include, but are not limited to:

- Addiction is a Chronic Disease
- Health Care Reform Principles
- Integration 101 – Levels of Integration/Use of Medical Language
- Working in the Health Care System
- Parity Principles
- Essential Benefits
- Information Technology/Data Technology
- Evolution of Electronic Medical Records and the Integrated Chart
- Confidentiality and Privacy (42 CFR/HIPAA)
- Data Entry Best Practices; Improving Data Quality
- SBIRT
- Medication-Assisted Therapies/Prescribing Practices
- Brief Interventions (i.e., Motivational Interviewing, etc.)
- Measuring Feasibility, Fidelity, and Impact of Integration Activities
- Facility Licensing and Regulation Requirements
- Addressing the Newly Eligible Population
- Impact of Behavioral Health services on Health Care Costs
- Diagnosing AOD Disorders and the Relation to Treatment Planning, Delivery, and Billing/Payment.

In summary, a great deal of work remains ahead across the realms of policy, research, training, and technical assistance. Efforts in each of these areas will affect and inform the other realms: Policy changes should ideally be based on data, and these changes will produce additional training needs that will inform further research, and vice versa. UCLA looks forward to continuing these efforts with ADP and other stakeholders to improve integration across the state.

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Appendix 2.1: List of Webinars and Conferences Attended

Webinars

Integration Models and Strategies:

Integrated Care: Lessons from Early Adopters
June 28, 2012 (10:00-11:00 PST)
The ECHO Group (Software and Services for Behavioral Health)

Implementing Evidence-based Practices: A 3-Part Model for Improving Outcomes
June 21, 2012 (2:00-3:00 EST)
Center for Integrated Health Solutions (CIHS)

Preparing for Bi-directional Integration: Lessons from the Field
June 14, 2012 (2:00-3:30 EST)
CIHS

Systems Thinking Strategies and Reforms
April 19, 2012 (2:00-3:00 EST)
State Associations of Addiction Services (SAAS) Workshop

Integrating Physical and Behavioral Health: An Exploration of State Options
November 15, 2011 (2:00-3:30 EST)
Center for Health Care Strategies, Inc.

Topics of Interest for the field:

Telepsychiatry: The Answer to your Workforce and Service Challenges
June 26, 2012 (2:00-3:30 EST)
CIHS

Chronic Pain: An Integrated Care Approach
March 6, 2012 (2:00-3:30 EST)
National Council for Community Behavioral Health

Preparing for New Treatment Expectations: Addressing Comorbid Mental and Physical Conditions
January 11, 2012 (2:00-3:30 EST)
National Council for Community Behavioral Healthcare

Coordinating Primary Care and Behavioral Health Services Among Homeless Population
September 22, 2011 (12:00-1:30 EST)
National Council for Community Behavioral Health

Forming Partnerships:

Performance-based Contracting for Behavioral Health
November 14, 2011 (2:00-3:30 EST)
National Council for Community Behavioral Health

EHR/Documentation/Confidentiality:

Legal Action Center 42CFR Part 2 Webinar Series
May 2012 (Series of 3)
Legal Action Center

Take Control of your EHR Implementation: Five Strategies for Success
February 22, 2012 (2:00-3:30 EST)
National Council for Community Behavioral Health

Financing/Funding Integrated Care:

Billing for Integrated Health Services
June 12, 2012 (2:00-3:00 EST)
CIHS

Addressing Barriers to Integration: Successful Reimbursement Strategies for Behavioral Health Providers in Primary Care
April 19, 2012 (2:00-3:00 EST)
ATTC Workshop

What Providers Need to Know About Medicare and State Medicare Advantage Plans
April 24, 2012 (10:30-11:30 PST)
SAMHSA

Conferences and Meetings

July 2011

- Attended the COJAC meeting on July 6, 2011 in Sacramento, CA.
- Attended the NIATx Summit and SAAS National Annual Conference in Boston, Massachusetts on July 10-13, 2011.
- Participated in the Stakeholder Meeting regarding Transfer of Drug Medi-Cal Functions to DHCS on July 13, 2011.
- Participated in the California Health Benefit Exchange: Enrollment and Eligibility Stakeholder Meeting on July 15, 2011.
- Attended in the Provider Meeting on the Drug Medi-Cal Program Transfer on July 25, 2011 in Sacramento, CA.

August 2011

- Participated in the ROSC Faculty Learning Community Discussion on August 3, 2011.
- Participated in the Stakeholder Meeting regarding the Transfer of the Drug Medi-Cal Program to the Department of Health Care Services on August 22, 2011.
- Attended the Global Implementation Conference in Washington DC on August 15-17, 2011.
- Attended the DDCAT Learning Community meeting in Washington DC on August 30-31, 2011.

September 2011

- UCLA presented to ADP Executives the 2010-2011 EnCal findings and plans for the future on September 22, 2011.
- Attended the SARC Conference in Burbank on September 14, 2011.
- Attended the 2nd Annual National Conference on Addiction Disorders in San Diego on September 17-21, 2011.
- Attended the CADPAAC Quarterly Meeting in Sacramento on September 28-29, 2011.

October 2011

- Attended the Addiction Health Services Research (AHSR) Conference in Fairfax, Virginia on October 3-5, 2011.
- Attended the SAPC/LACES Dashboard training in Culver City, California on October 17, 2011.
- Attended the COD Statewide Conference in Burbank, California on October 26-27, 2011.

January 2012

- UCLA attended the CADPAAC Quarterly Meeting in Sacramento, CA on January 25 and 26, 2012 including the presentation on Integrating SUD Services in a Healthcare Reform World: Challenges and Oppositions.

February 2012

- Participated in the Learning Community on Co-Occurring Integration State-to State Conference Call on February 17, 2012.
- Viewed the Joint Legislative Informational Hearing on the State Behavioral Health System conducted on February 21, 2012 (http://www.calchannel.com/).

March 2012

- UCLA attended March CADPAAC Quarterly meeting in Sacramento, March 27-29, 2012, and brought in Mady Chalk to present on Workforce Development and Essential

Benefits.
- Participated in the special lecture Implementation Issues and the Use of Performance Measures in Coordinated Care for Medical, Mental Health and Substance Use Disorders on March 9, 2012 which was hosted by the Los Angeles Department of Public Health, Substance Abuse Prevention and Control, ISAP and PS-ATTC.

April 2012

- Participated in the CADA Conference on April 10, 2012 in Sacramento, CA.
- Participated in the NIDA Blending Initiative Workshops: Making Motivational Interviewing Techniques Accessible to Primary Care and SBIRT for Primary Care and Emergency Department on April 19, 2012 (NIDA Webcast).

May 2012

- Dr. Urada presented during the Legislative Hearing on May 10, 2012 in Sacramento, CA on the topic of integrating substance use disorder services and primary care.
- Participated in the SAPC HCR Readiness, Planning & Implementation Stakeholder Meeting on May 18, 2012.
- Attended the CADPAAC Quarterly Meeting on May 23, 2012 in Sacramento, CA. A training update was prepared and distributed to the group.
- Participated in the 1915b Waiver for Drug Medi-Cal Conference call on May 22, 2012.

June 2012

- Participated in the 1915b Waiver for Drug Medi-Cal Conference call on June 5, 2012.
- Participated in the CPDD Conference in Palm Springs, CA on June 10-13, 2012.

Appendix 2.2: Integration Activities Survey

1. Your Name and County _____

2. In what ways is your county facilitating integration of substance use disorder services with primary care or mental health services?

3. Would you be willing to describe your county's efforts to fellow members of the Integration Learning Collaborative on a future conference call? Yes / No

Appendix 2.3:

Strategic Planning Principles for the Integration of Substance Use Disorder (SUD) and Mental Health (MH) Services in California:

An Emphasis on Workforce Development

Submitted December 7, 2012

Prepared for the Department of Alcohol and Drug Programs,
California Health and Human Services Agency

(Appendix to EnCal Report Chapter 2)

Richard A. Rawson, Ph.D., Brandy Oeser, M.P.H.,

Valerie Pearce Antonini, M.P.H., William Burdon, Ph.D, Darren Urada, Ph.D

UCLA

University of California, Los Angeles

ISAP

Integrated Substance Abuse Programs

Table of Contents

I. Introduction

The passage of the Patient Protection and Affordable Care Act of 2010 and the Health Care and Education Reconciliation Act of 2010, together referred to as "The Affordable Care Act," has emphasized the need to improve the quality, availability, and affordability of health care for all Americans through integration and collaborative processes. A central principle in this system change is the need to move toward a collaborative and patient-centered approach to health care through the integration and coordination of health services. The substance use disorder (SUD) and mental health (MH) fields will be part of the transition toward integrated care; it will be essential for SUD care and MH care to become more coordinated and integrated with physical health care (Institute of Medicine, 2006).

It is anticipated that health care reform (HCR) will result in (among other things) modifications in how services will be funded, the type of services delivered, the venues where they are delivered, the individuals who will receive the services, the workforce that delivers the services, how services are measured, and how service benefits are evaluated. In California, it is estimated that in 2014, an additional 4.5 million Californians will have health insurance, and, as a result, a substantially different service system will be needed to provide SUD and MH care, including prevention, treatment, and recovery services (California Department of Alcohol and Drug Programs, 2010). This report describes methods taken to investigate this issue, discusses findings, and proposes recommendations to help state leaders and policy makers plan for the workforce that will be needed as SUD and MH services are more closely integrated with primary health care services in California over the next 5 years.

II. Methods

During fiscal year 2011–2012, UCLA began addressing the following objective: to develop strategic planning principles to guide the future development of an integrated drug treatment delivery system in California under health care reform. As SUD integration under health care reform is still in its infancy, the workforce necessary to implement SUD services outside of the specialty system is unclear. Therefore it was imperative to utilize multiple avenues to investigate this issue from the local level to the national level.

UCLA conducted extensive literature searches investigating the activities, research, and policies impacting (1) the changing environment and landscape of health care delivery, (2) the implementation of integrated care, (3) current challenges facing SUD specialty care, and (4) health care workforce development needs (including the development of new workforce frameworks, knowledge/practices/skills/competencies, and behavioral health training models/programs). In addition, UCLA consulted with national experts from the Substance Abuse and Mental Health Services Administration (SAMHSA), the Office of National Drug Control Policy (ONDCP), Health and Human Services (HHS), California's Workforce Investment Board (WIB), Annapolis Coalition, and other leaders in the field of substance abuse, mental health, health policy, service billing/financing, and workforce development. Key informant interviews were held with Sarah Wattenberg (HHS/Office of the Assistant Secretary for Health), Linda Kaplan (SAMHSA), Donna Doolin (SAMHSA), Mady Chalk (Treatment Research Institute), Leslie Hargrove (Texas Area Health Education Center), and representatives of NASADAD (National Association of State Alcohol and Drug Abuse Directors) to gather guidance and insight from workforce development leaders at the national level. In addition, UCLA consulted frequently with leaders at the California Department of Alcohol and Drug Programs (Michael Cunningham, Dave Neilson, Marcia Yamamoto) to further understand

current priorities and issues at the state level. UCLA also utilized the knowledge gained across the course of the last 2 years (2010–2012) through the EnCAL contract, as well as from the UCLA ISAP Training Department and the Pacific Southwest Addiction Technology Transfer Center (PSATTC), to compile a thorough review of county- and provider-level workforce needs

III. Findings

A. The Changing Environment/Landscape of Health Care Delivery

Drivers of System Change at the National Level

In March 2010, President Obama signed into law the Affordable Care Act (ACA), which makes health insurance coverage more affordable for individuals, families, and the owners of small businesses. Although the legislation remains controversial, with some states challenging it in federal court, the U.S. Supreme Court found the law to be constitutional in June 2012. With implementation slated for 2014, many are encouraged that HCR through the ACA represents a broader movement toward a reformed behavioral health system (SAMHSA - http://www.samhsa.gov/healthreform/).

The Affordable Care Act represents the recognition that prevention, early intervention and, when necessary, treatment of mental and substance use disorders are an integral part of improving and maintaining an individual's overall health. SAMHSA drafted a document designed to describe the basic services required for such a system and foster discussion among the Department of Health and Human Services Operating Divisions and other federal agencies on how best to integrate mental and substance use disorders into the health reform implementation agenda. This proposed modern mental health and addiction service system provides a continuum of effective treatment and support services that span the health care, employment, housing, and educational sectors. The integration of primary care and behavioral health services is essential. As a core component of public health service provision, a modern addictions and mental health service system would be accountable, organized, accessible, equitable, and effective, and it would control costs and improve the quality of care. An effective SUD/MH service system should include health promotion, prevention, screening and early intervention, care management, self-help and mutual support, and a continuum of services, including health homes, prevention and wellness services, engagement services, outpatient and medication-assisted treatment, community supports and recovery services, intensive support services, other living supports, out-of-home residential services, and acute intensive services (O'Brien, 2011).

Drivers of System Change in California

Bridge to the Future (1115 Waiver)

As noted above, as a result of the system delivery changes at the national level, it is estimated that an additional 4.5 million Californians will have health insurance in 2014 (California Department of Alcohol and Drug Programs, 2010). To assist the state and its counties in implementing expanded health coverage, the federal government approved a section 1115 Medicaid Demonstration Waiver entitled "California's Bridge to Reform." The waiver, which is approved for the 5-year period ending October 31, 2015, makes available up to roughly $8 billion in federal Medicaid matching funds for expanding coverage to low-income uninsured adults and preserving and improving the county-based safety net. The waiver also allows the state to enroll Medicaid-eligible seniors and persons with disabilities (excluding dual eligibles) into managed care plans. This will also allow the state to test models of integrated care ahead of

the nationwide expansion required by 2014 (California Department of Health Care Services [CDHS], 2011).

The state will extend coverage to low-income adults through a Low Income Health Program (LIHP). The 1115 Waiver did not require an SUD benefit but it allowed it as an option. Eight counties explicitly proposed add-on SUD services in their LIHP applications to CDHS: Kern, Orange, Riverside, San Francisco, San Mateo, Santa Clara, Santa Cruz, and Tulare (CDHS LIAA, 2011). However, application approval does not mean that a local LIHP is authorized to implement the program, only that DHCS will assist each applicant work through the authorization and implementation process as counties work toward implementation beginning in July 2011 (CDHS LIHP, 2011).

UCLA ISAP has been participating in LIHP meetings held during CADPAAC quarterly meetings to keep track of these efforts. SUD benefits in these counties have generally been limited to narrow populations (e.g., emergency room users), and progress in implementing these benefits has been slow. UCLA will continue to monitor progress, keep an eye out for interesting delivery models that emerge, and consider LIHP counties for study in future pilot project efforts.

Reorganization of the California Department of Alcohol and Drug Programs (ADP)

Governor Brown signed the California budget for FY 2012–2013 on June 27, 2012. The future of the State Department of Alcohol and Drug Programs was laid out within a Trailer Bill. Effective July 1, 2013, the administrative and programmatic functions that were previously performed by the State Department of Alcohol and Drug Programs will be transferred to departments within the Health and Human Services Agency. In consultation with system stakeholders and affected departments, the California Health and Human Services Agency will prepare a detailed plan for a reorganization of administrative and programmatic functions of the State Department of Alcohol and Drug Programs. The plan developed under this section will be submitted to the legislature as part of the 2013–2014 governor's budget. The budget will identify the transfer of administrative and programmatic functions that were previously performed by the State Department of Alcohol and Drug Programs. The ultimate placement of these functions is contingent upon the Budget Act of 2013 and implementing legislation (SB 1014).

According to the California Department of Health Services, "State-level integration of the administration of the substance use disorder treatment system with mental health and primary care will improve the overall health status of individuals with substance use disorders (V. Baird, personal communication, May 15, 2012." Currently, more than 50 of the 58 California counties, SAMHSA, and over 30 states and territories have already moved to administratively integrate these critical areas of health. The Brown Administration is maintaining its proposal to reorganize the programs currently administered by the Department of Alcohol and Drug Programs (DADP) to other entities reporting to the California Health and Human Services Agency. This will begin with the transfer of the Drug Medi-Cal Treatment program from DADP to DHCS, effective July 1, 2013.

A new Division of Mental Health and Substance Use Disorder Services within the Department of Health Care Services (DHCS) will administer the two substance use disorder programs: Drug Medi-Cal and the Federal Substance Abuse Prevention and Treatment (SAPT) Block Grant. This will be headed by a deputy director appointed by the governor and confirmed by the senate. The remaining ADP functions and activities, along with staff and necessary infrastructure, will be transferred to two other departments within the Health and Human

Services Agency: The Department of Social Services (DSS) and Department of Public Health (DPH).

As originally proposed, the Department of Social Services will create a new branch for the substance use disorder and mental health facility licensing program and staff. This branch will be headed by a branch chief who will report directly to the deputy director of Community Care Licensing (CCL) at DSS. Prior to the creation of the Department of Alcohol and Drug Programs, the early alcohol and other drug (AOD) residential licensing program started at CCL at DSS. The proposed transfer will incorporate substance abuse disorder programs into the current licensing functions of the DSS. At the same time, it will ensure consistency for residential facilities by preserving the existing expertise of ADP staff. It also will benefit the current CCL programs of the DSS. Individuals with substance use disorders are served in many of the care arrangements currently licensed by CCL. One of the essential functions of the Department of Public Health is to link individuals to needed personal health services. The DPH is the largest licensor of medical facilities and will be responsible for the licensure of narcotic treatment programs (NTPs), which are opioid treatment programs offering medical services. Leadership on policy related to NTPs will reside at DHCS. The Office of Problem Gambling, Driving Under the Influence programs, and alcohol and other drug counselor certification, which are consistent with prevention and intervention programs at DPH, will also transfer to DPH.

The plans above are in the process of being reviewed, however, as the state received feedback from stakeholders that their top priority is to retain all functions of the Department of Alcohol and Drug Programs in one department, with DHCS and DPH mentioned as candidates for that department. Further clarification is expected in 2013.

B. Implementing Integrated Care

Research Supporting Integrated Care

Considerable research over the past decade documents that greater integration between SUD, MH, and primary care services results in better healthcare outcomes (Parthasarathy, Mertens et al., 2003; Samet, Friedmann et al., 2001; Weisner, Mertens et al., 2001). The integration of SUD/MH services with primary care (PC) for patients with chronic medical conditions has been demonstrated to improve outcomes and functional issues that complicate care (Katon et al., 2004; Rollman et al., 2009; Thombs et al., 2008). For patients with diabetes, the integration of depression care with medical services reduced outpatient costs by $314 over 24 months (Simon et al., 2007) and total medical costs by $3,907 over 5 years (Katon et al., 2008). For individuals with conditions associated with SUD (depression, anxiety and nervous disorders, hypertension, asthma, psychoses, acid-peptic disorders, ischemic heart disease, pneumonia, COPD), the integration of SUD services with medical care decreased inpatient days and emergency room utilization, leading to medical cost reductions of $231.09 PBPM (per beneficiary per month; Parthasarathy et al., 2003). The integration of SUD/PC services with medical care for Medicaid enrollees with chronic conditions could reduce medical costs by between 28% and 47% (Pallak et al., 1994).

In addition to integrating SUD and MH care with primary care, there is clear evidence that benefits accrue from better integrating SUD and MH services with each other. Research on integrated models of care for people with co-occurring MH and SUD problems finds that integrated treatment results in higher retention and engagement (Drake, 1998) and higher treatment compliance across clients receiving integrated care (Barrowclough, 2001; Herman et al., 1997; Hellerstein, 1995; Linehan, 1999). Other optimal outcomes include increased

attendance rate (Herman, 2000), stronger intentions to stay sober (Herman, 1997), lower relapse rates (Barrowclough, 2001), and overall reduction in drug and alcohol use (Herman, 1997). The evidence documents improved outcomes through integrated care and that key elements of successful models require support at all levels of service delivery organizations.

Models of SUD/MH/PC Integration

Promising models of behavioral health integration in primary care settings are emerging along a continuum, from minimal collaboration, to partial integration, to full integration (Buck, 2011; Collins, Hewson, Munger, & Wade, 2010). A growing number of integration models have been implemented to reduce inefficiency and maximize the potential of the consumer (Butler, 2008; Mollica, 2003; Wagner, 2001). The National Council's Four Quadrant Model (2002), the Chronic Care Model (Wagner, 2001), and the Impact Model (Unutzer, Katon, et al., 2002) are some of the models used in the field. Although many models along the continuum of integration have yet to be tested in randomized trials, several studies indicate that the close, partly integrated model within a disease management framework is associated with better outcomes and reduced costs as compared to usual care (Collins, 2010; Unutzer, 2002). At this time, it is unknown as to what model of integration is most efficient and/or practical in all cases. In fact, implementation initiatives seem to indicate that environmental and organizational factors may also be key determinants of what works and what does not work across various settings.

Examples of California Integration Initiatives

Integrating substance abuse treatment and mental health into primary care and other medical settings is feasible, and a variety of integration models can be successfully implemented with diverse patient populations. Many county SUD treatment providers have already begun integration initiatives in their respective communities. For example, **Kern County** is currently integrating mental health and substance use disorder screening and on-site therapeutic services within six primary care clinics (five FQHCs and one hospital outpatient clinic), incorporating elements of integrated case conferencing, use of registries, use of evidence-based practices, administrative meetings, practitioner networking, and training to implement this initiative. **Los Angeles County** has partnered with UCLA Integrated Substance Abuse Programs to provide telepsychiatry services in a residential SUD treatment facility operated in Antelope Valley Rehabilitation Center (AVRC) in Acton, California, in order to offer a broader psychiatric service where local access is limited. In addition, Los Angeles County's Substance Abuse Prevention and Control and Department of Mental Health have initiated integration pilot projects testing the implementation of co-locating behavioral health services in primary care agencies, while incorporating integration measurement tools to monitor progress.

Orange County is implementing a bi-directional care project in which a unique public/private partnership has been made between a community clinic, a SUD provider, and a MH provider. The BH teams are located in community clinics (FQHCs and FQHC look-alikes) to provide services such as home visits, outreach, nutrition education, and information on smoking cessation and medication compliance. The BH and PC teams meet weekly, and coaching is provided to ensure an effective integration team. **San Diego County** has been conducting screening, brief intervention, and referral to treatment (SBIRT) in its primary care clinics for over 20 years, incorporating universal screening and the utilization of health educators and peer educators. **Santa Clara County's** Department of Alcohol & Drug Services (DADS) is piloting two integrated care programs that involve SBIRT: the Moorpark Medical Home and the

Alexian Integrated Care Project. The DADS hopes these integration projects will improve clinical outcomes and decrease over-utilization of high cost hospital and ER services and result in cost savings throughout the health system.

Barriers/Challenges to SUD Integration

Funding

The most commonly cited barrier to SUD/PC integration in California is inadequate funding. There are a variety of regulatory issues that obstruct integration efforts, including the facility-specific and "carved out" nature of the California Drug Medi-Cal benefit and the limited set of services provided by this benefit. Further, California Medi-Cal regulations do not allow FQHCs to bill for physical health and behavioral health services provided to one individual on the same day and incorporate specific licensure requirements among the workforce in order to bill for behavioral services.

Health care funding structures have not been designed to facilitate collaboration, and compensation mechanisms for collaborative care are not easily accessible or available across fields. For any provider or organization seeking to initiate a new practice or model for integration, the lack of financing can be a huge barrier to implementation and sustainment. While the state can provide models and recommendations on how to begin the integration of SUD services within the PC field, these proposals must come with the dollars that can support any such action. Tight budgets that do not leave much room to consult with and provide support to primary care providers further prevent the SUD field from being able to support activities such as joint planning and training, which are needed for integration.

Documentation and sharing of information

Another common barrier to integration involves treatment providers having to document integrated services and navigate through the regulations (state and federal) restricting and protecting patient health information (i.e., Health Insurance Portability and Accountability Act (HIPAA) and the Code of Federal Regulations, Title 42, Section 2 [42 CFR]). Though many of these problems could be solved by having patients sign consent forms authorizing the sharing of SUD records before treatment, many providers are still unsure of how to make these changes while still satisfying federal privacy requirements. Federal guidelines are not clear regarding the implementation practices for sharing information to facilitate integrated care; therefore, many of the laws are left open to interpretation. In addition, developers of electronic health record (EHR) software must also consider all the differing privacy requirements because the use of EHRs is encouraged and incentivized under health care reform and the HITECH act. As privacy regulations are re-evaluated to facilitate integrated care while maintaining patient privacy, the health information technology and health information exchange processes are also continuing to evolve in order to capture integrated services while maintaining capabilities to monitor data for quality control, performance, and meaningful use.

Establishing partnerships

In addition, breaking the separate silos of care and forming effective partnerships between SUD and primary care providers can be very challenging and has been an obstacle for many, particularly in the primary care field. Primary care providers, who are already balancing large caseloads and packed schedules, are often reluctant to implement new protocols (such as SUD screening) since they have limited face-to-face time with patients and prefer to focus on

more immediate medical concerns. Language and professional "cultural" barriers are present between all areas of health care providers (primary care, mental health, public health, and substance use disorder treatment), and they surface in places that are not necessarily easy to anticipate. Differences between providers are also found in the nuances of treatment planning practices, billing practices, charting norms, and even in how clients/patients/consumers are referred to. It is important that a common language be identified, and that respect between the differing professions is carried into ongoing planning and collaborations. Flexibility, adaptability, tolerance, patience, and openness are all key elements that will be required among the workforce to facilitate a successful partnership.

Workforce gaps and training needs

The current substance abuse treatment workforce is not sufficient in number and does not have all of the skills necessary to function in an integrated environment. Fewer counselor licensure/certification requirements are required for substance abuse counselors in comparison to mental health counselors. Requirements for substance abuse counselor certification varies substantially across California's nine certifying organizations and does not include preparation related to physical health conditions or working in settings other than those providing substance abuse specialty treatment. The majority of members of the core disciplines (physicians, nurses, social workers, psychologists, physician's assistants, and others) are also likely to have insufficient training in addiction. Physicians report barriers to the use of medication-assisted treatment and screening and brief intervention, including not feeling comfortable in managing all components of either type of intervention. It is essential that the availability of peer support be maintained as treatment for substance use conditions is integrated into primary and other medical care settings (DiLonardo, 2011).

C. Current Challenges Facing SUD Specialty Care

Development of a Continuum of Care

The chronic illness approach to substance use disorders requires a continuum-of-services system model that shifts the emphasis away from acute symptom stabilization (episodic treatment) toward a continuum including prevention, intervention, treatment, and long-term recovery support (Flaherty, 2006; Kipnis & Killar, n.d.). This shift toward managing substance use problems as chronic health problems and taking on a public health approach is a national priority. The creation of a continuum of care that promotes treatment of SUDs has substantial regulatory, financing, and workforce implications.

Increased Application of Evidence-based Practices

The movement in recent years toward evidence-based practices (EBPs) in health care systems and policy has permeated the substance abuse treatment system, leading to a growing number of federal and statewide initiatives to mandate EBP implementation. The rationale for the recent movement emphasizing dissemination and implementation of evidence-based practices is straightforward: If clinical decision-making and practice are informed by experimental studies that have established the effectiveness of particular interventions for specified clinical populations, this should (a) increase treatment effectiveness, (b) facilitate consistency in practice, (c) establish accountability of health service providers to funding sources, (d) increase cost-effectiveness of treatment, and (e) improve the overall quality of treatment. In the field of addiction, however, consensus regarding the optimal procedures for

identifying practices with sufficient empirical foundation to be considered "evidence-based" has not yet been reached. Nevertheless, the concept of "evidence-based practices" is increasingly emphasized by providers, managers, payers, and regulators of behavioral health care. Among the most important and underused of the EBPs are the medications for SUDs.

The U.S. Food and Drug Administration has approved six medications indicated to treat substance use disorders. Despite their proven effectiveness, national data shows discouragingly low medication-assisted treatment (MAT) usage rates in community treatment settings. However, offering a full range of effective treatment options, including medications, to patients maximizes consumer choice and encourages improved outcomes.

Performance Measurement and Use of Data

The need for improving the accountability and ensuring the quality of publicly funded substance abuse treatment provided in the United States has been increasingly emphasized at the federal, state, and local levels, and underscored by the seminal Institute of Medicine Quality Chasm Reports (IOM, 2001, 2006). Pressures for cost containment and improved outcomes have directed federal, state, county, and treatment agencies toward the use of performance and outcomes management data systems, evidence-based practices, and quality-improvement strategies.

A public health chronic illness framework for measuring the effectiveness of interventions suggests measuring program performance or factors related to improved client outcomes, including immediate treatment access, treatment engagement (Garnick et al., 2007; Simpson et al., 2007), treatment retention (DATOS studies – Hubbard et al., 2001; Simpson et al., 2004), use of evidence-based practices, including both psychotherapeutic and pharmacotherapy (NQF, 2006), receiving supplemental/ancillary services for medical, psychiatric, and/or family problems (McLellan et al., 2008), promoting the participation in mutual self-help groups (McKay, 2005), and ensuring care continuity post-initial treatment (Dennis et al., 2006, all of which have been identified as potentially useful "performance measures." An integral component of performance measurement is performance management, which refers to processes for establishing performance measures, and obtaining, reporting and using these data to determine satisfactory performance, improve services, and inform decisions for improving the quality of care (Durman, Lucking, & Robertson, 2008).

Funding

Historically, the funding for SUD services in California has primarily come from federal block grants, with Medi-Cal (a specialty benefit referred to as "Drug Medi-Cal), CalWorks, and county funds serving as other sources of funding. Plans for the implementation of the Affordable Care Act include an expectation that Medi-Cal will play a much larger role in the funding of SUD care in California and that use of block grant funds will need to be restructured to fund nonmedical services ineligible for Medi-Cal reimbursement. This paradigm shift raises many issues that need consideration: What will the basic federal benefit for SUD services under Medicaid be? Will "Drug Medi-Cal" continue to exist as a specialty program? How will plans for managed care interface with these benefits? Will California consider a rehab option for its SUD benefit? How will the funding of non-medical services using block grant funds be done and how will the interface between block grant and Medi-Cal funds be structured and monitored?

SUD Licensing and Certification

The distinction between licensing and certification is an important one. *Licensing* connotes legal authorization to deliver substance abuse treatment services. Licensed programs and/or individuals are generally recognized by the state as being in compliance with established (often codified) standards and, as such, are legally permitted to deliver treatment services to individuals. Where licensing exists, there is generally only one governmental or legal entity that is authorized to establish standards for licensure and grant licenses to those who are determined to be in compliance with those standards.

Like licensing, *certification* recognizes compliance with established standards on the part of programs and/or individuals who provide treatment services. However, unlike licensing, certification is often voluntary; it is not legally required in order to provide services. In addition, multiple entities may be recognized in a state or jurisdiction as acceptable certification entities. Each of these entities will have established standards (that may vary significantly from one certification body to another). If they do choose to become certified, individuals or programs can do so through any one of the existing recognized entities.

Also, unlike in medicine, psychiatry, and some forms of mental health treatment, where individual practitioners (M.D.s, Ph.D.s, Psy.D.s) must be licensed to practice, licensing in addictions treatment generally only applies to programs and not to individual practitioners. It is for this reason that in states and jurisdictions where licensing is required for an organization to provide addiction treatment services, one of the requirements to be licensed is certification by a recognized certifying body, usually of both the program and the treatment practitioners within the organization. However, where licensing is not required, certification may or not be voluntary, although it often adds credibility to the organization or person providing the treatment service.

Licensed professional counselors (LPCs) are mental health service providers with a master's or doctorate degree. These individuals are trained to diagnose and treat mental health disorders, including addiction. Unlike licensed medical doctors and psychologists, who take an illness-centered approach to treatment, LPCs' training and education is focused on client-centered treatment such as cognitive behavioral, interpersonal, and psychodynamic therapies. LPCs are largely employed in community health centers and organizations, but they are also employed in primary care settings and organizations. According to the American Counseling Association, all 50 states, the District of Columbia, and Puerto Rico have professional counselor licensure boards.

Despite the presence of licensing boards and requirements for medical doctors, psychologists, and mental health service providers with master's or doctorate degrees, a large number of individuals who provide "front line" substance abuse treatment services do not have graduate degrees and may only have a high school degree. Many of these individuals are in recovery themselves and have entered the field of addiction treatment as a means of giving back and/or reinforcing or furthering their own journey in recovery. For these individuals, being licensed is not required.

Certifying bodies

According to SAMHSA (2005),[3] most state-approved substance abuse treatment programs require substance abuse counselors to be certified as being in compliance with

[3] In 2005, SAMHSA published *A National Review of State Alcohol and Drug Treatment Program Certification Standards for Substance Abuse Counselors and Prevention Professionals* (SAMSHA, 2005).

established standards for providing counseling and clinical services to individuals. Depending on the state, standards are established by designated state boards or agencies or by one or more certification organizations that may be based in the state. The primary purpose of certification is to standardize practices across a wide variety of treatment settings. The role of certification organizations is to certify individuals applying for entry into the alcohol and drug counseling profession. To this end, these organizations establish professional competency standards, provide education to applicants seeking to learn and comply with these standards, provide ongoing education and training to counselors seeking to maintain their certification, and provide general assistance to treatment programs and counselors in providing quality treatment services.

Most certifying bodies are affiliated members of one or both of two national/international organizations that have established professional standards for addiction professionals. As members, these organizations agree to set certification standards that are at least as stringent as those set by the national/international organization; some certification bodies adopt more stringent certification standards. The two major national/international certification organizations are:

1. ***International Certification and Reciprocity Consortium/Alcohol and Other Drug Abuse (IC&RC, or ICRC).***

Started in 1981, the IC&RC is the largest international credentialing organization in the field of addiction treatment. The IC&RC is a nonprofit membership organization. Membership is voluntary. As of 2011, over 45,000 professionals had IC&RC certification. Forty-five U.S. states and two U.S. territories are members of IC&RC, and it is estimated that up to 50% of substance abuse professionals in the United States hold IC&RC certification.

The IC&RC provides reciprocal credentialing in the following positions:

- Alcohol and Drug Counselor (ADC),
- Advanced Alcohol and Drug Counselor (AADC),
- Clinical Supervisor (CS),
- Prevention Specialist (PS),
- Certified Criminal Justice Addictions Professional (CCJP),
- Certified Co-Occurring Disorders Professional (CCDP), and
- Certified Co-Occurring Disorders Professional Diplomate (CCDPD).

Each credentialed position has defined domains that are specific to that credentialed position. Table 1 lists the domains specific to each credentialed position, and Table 2 provides a summary of the minimum standards required for each credentialed position. Experience, education, and supervision standards may be tied to the specified domains for that position. In order to be credentialed, individuals must meet the standards set by the member organization where that person lives and work at least 51% of the time.

IC&RC credentials are reciprocal, which means that they are recognized by other IC&RC member organizations; they are not specific to the locale where the individual was originally credentialed. IC&RC credentials are also recognized internationally and are written into many U.S. state and national treatment practice regulations and insurance legislation. Member organizations may set higher standards for each credentialed position.

Table 1. IC&RC Minimum Standards for Reciprocal Credentials*

Standard	IC&RC Credential						
	ADC	**AADC**	**CS**	**PS**	**CCJP**	**CCDP**	**CCDPD**
Pre-requisite	None	None	ADC, AADC, CCJP, CCDP or CCDPD credential.	None	None	None	None
Experience	6,000 hrs of supervised work experience specific to the ADC domains.**	2,000 hrs of supervised ADC-specific work experience.	10,000 hrs of ADC counseling plus 4000 hrs of ADC supervisor work experience.	2,000 hrs of Alcohol, Tobacco and Other Drug prevention work experience.	6,000 hrs of supervised work experience specific to the domains.**	4,000 hrs of co-occurring work experience and 2000 hrs of documented counseling experience in last 10 yrs.	2,000 hrs of co-occurring specific work AND 2,000 hrs of counseling experience in the last ten yrs
Education	270 hrs specific to the domains.	Master's Degree in behavioral science with a clinical application.		100 hrs of prevention education.	270 hrs of education specific to the domains. Six hrs must be in criminal justice ethics.**	Bachelor's degree in co-occurring disorder (COD) or behavioral science with a clinical application.	Master's degree or higher in co-occurring disorder (COD) or behavioral science with a clinical application.
Supervision	300 hrs specific to the domains.	300 hrs specific to the domains.		120 hrs specific to the domains (min 10 hrs in each domain).	200 hrs specific to the domains**	200 hrs, at least 20 hrs in each of the domains.	100 hrs (min 10 hrs in each domain).
Re-certification	40 hrs of continuing education every two yrs.	40 hrs of continuing education every two yrs.		40 hrs of continuing education every two yrs.	40 hrs of continuing education every two yrs.	40 hrs of COD-specific continuing education every two yrs.	40 hrs of COD specific continuing education every two yrs.

*All credential require successful completion of an exam and for the applicant to sign a Code of Ethics.
**College level degrees (associates, bachelor, master's, doctorate) may substitute for hours.

Table 2. IC&RC Credential Domains

	IC&RC Credential						
	ADC	**AADC**	**CS**	**PS**	**CCJP**	**CCDP**	**CCDPD**
Credential Domains	Clinical Evaluation	Clinical Evaluation	Counselor Development	Planning & Evaluation	Dynamics of Addiction & Criminal Behavior	Screening & Assessment	Screening & Assessment
	Treatment Planning	Treatment Planning	Professional & Ethical Standards	Education & Skill Development	Legal, Ethical & Professional Responsibility	Crisis Prevention & Management	Crisis Prevention & Management
	Referral	Referral	Program Development & Quality Assurance	Community Organization	Criminal Justice System & Processes	Treatment & Recovery Planning	Treatment & Recovery Planning
	Service Coordination	Service Coordination	Performance Evaluation	Public Policy & Environmental Change	Clinical Evaluation: Screening & Assessment	Counseling	Counseling
	Counseling	Counseling	Administration	Professional Growth & Responsibility	Treatment Planning	Management and Coordination of Care	Management and Coordination of Care
	Client, Family & Community Education	Client, Family & Community Education	Treatment Knowledge		Case Management, Monitoring & Participant Supervision	Education of the Person, Their Support System & the Community	Education of the Person, Their Support System & the Community
	Documentation	Documentation			Counseling	Professional Responsibility	Professional Responsibility
	Professional & Ethical Responsibilities	Professional & Ethical Responsibilities			Documentation		
		Research Design, Analysis, & Utilization					
		Clinical Supervision					

2. ***Association for Addiction Professionals (NAADAC, originally the National Association of Alcohol and Drug Abuse Counselors).***

NAADAC is a national organization that certifies addiction professionals in the United States. The organization focuses on four goals:

- ***Professional Development.*** Education and training, mentorship, establishment of professional standards, compliance with a code of ethics, outreach to students and professionals, improvement of salary and benefits for the profession at large.
- ***Public Engagement.*** Publicly advocate for and disseminate information about the addiction profession.
- ***Professional Services.*** Provide quality services to affiliates and members.
- ***Communicate the Mission of the Organization.*** Effectively communicate the organization's mission statement ("To lead, unify and empower addiction focused professionals to achieve excellence through education, advocacy, knowledge, standards of practice, ethics, professional development and research") to members, partners and stakeholders.

Certification is offered through the National Certification Commission (NCC), which is affiliated with but distinct from NAADAC; individuals can be certified through NCC and not be members of NAADAC. Established in 1990, the NCC provides the following primary certifications for alcohol and substance abuse counselors:

- National Certified Addiction Counselor, Level I (NCAC I)
- National Certified Addiction Counselor, Level II (NCAC II)
- Master Addiction Counselor (MAC)
- Nicotine Dependence Specialist (NDS)

Table 3 provides a summary of the qualifications for each of the above certifications. To date, NAADAC has credentialed more than 15,000 counselors. Besides certification, NAADAC also provides education and clinical training.

Table 3. NAADAC Credentials*

	NAADAC Credential			
	NCAC I	**NCAC II**	**MAC**	**NDS**
Qualifications	Certified substance abuse counselor. 270 hrs of substance abuse counseling training. 3 yrs FT work as a substance abuse counselor. Ethics & HIV/AIDS training/education in the past 5 yrs.	Bachelor's degree. Certificate or license in your profession 450 hrs of substance abuse education and training. 5 yrs FT work as a substance abuse counselor Ethics & HIV/AIDS training/education in the past 5 yrs.	500 hrs education & training, including Master's degree in human services field. Certificate or license in your profession. 3 yrs supervised experience (2/3 of which must be post-master's degree). Ethics & HIV/AIDS training/education in past 5 yrs.	Certification in helping profession, teaching certificate, or alcohol & other drug certification Evidence of trainings received in the last 3 yrs. 85 hrs of nicotine dependence training & validated testing. Ethics & HIV/AIDS training/education in past 5 yrs.

*All credentials require successful completion of an exam and for the applicant to sign a Code of Ethics.
**College level degrees (associates, bachelor, master's, doctorate) may substitute for hours.

State Certification Practices

Since 1970, each state has been required to have a "Single State Authority" (SSA) for drug abuse to manage formula grants and oversee delivery of treatment services. Certain states stand out in that they have only one organization that is authorized to provide certifications. These states are affiliated with IC&RC, the international certification organization, and as such, they offer reciprocity to individuals certified under IC&RC or by other states who are members of IC&RC.

First created in 1998 and revised in 2005, the Center for Substance Abuse Treatment's Technical Assistance Publication (TAP) 21, *Addiction Counseling Competencies: The Knowledge, Skills, and Attitudes of Professional Practice (The Competencies)*, identifies 123

competencies that are considered essential to the effective practice of counseling for substance use disorders. Since it was first published, TAP 21 has become a benchmark by which curricula are developed and educational programs and professional standards are measured for the field of substance abuse treatment in the United States.

California Certification Practices

The requirements for certification for individuals providing counseling services in alcohol and other drug (AOD) recovery and treatment programs that are licensed and certified by the California ADP appear in Title 9, Division 4, Chapter 8 of the California Code of Regulations (CCR). Specifically:

- Within six (6) months of the date of hire, all non-licensed or non-certified individuals providing counseling services in an AOD program must be registered to obtain certification as an AOD counselor by one of the approved certifying organizations (CCR, Section 13035(f)).
- Registrants are required to complete certification as an AOD counselor within five years from the date of registration (CCR, Section 13035(f)(1)).
- Certified individuals are required to provide documentation of completion of a minimum of forty (40) hours of continuing education and payment of a renewal fee to their certifying organization in order to renew their AOD certification during each two-year period (CCR, Section 13050(l)).

AOD counselor certification is based upon the TAP 21 (SAMHSA, 2008) and is achieved via one of nine certifying organizations currently approved to make such certifications by ADP. To obtain ADP approval, certifying organizations must first be accredited by the National Commission for Certifying Agencies (NCCA). Once NCCA accreditation is obtained, the organization submits a written request to ADP to recognize the organization, along with written documentation of compliance with the requirements of CCR, Title 9, Section 13035(c). ADP currently recognizes the following nine certifying organizations in California:

1. Association of Christian Alcohol & Drug Counselors

The Association of Christian Alcohol & Drug Counselors (ACADC) is a nonprofit corporation that was established in 2002. ACADC trains and certifies drug, alcohol and addictions counselors in accordance with biblical Christian principles. ACADC Institute Certification Programs include the following:

- CSAC I - Entry level substance abuse counselor certification
- CSAC II - Advanced level substance abuse counselor certification
- CDAAC I-P - Professional level Drug, Alcohol & Addiction Counselor Certification
- CDAAC I-S - Professional level Drug, Alcohol & Addiction Counselor Certification with State Certification
- CDAAC II-S - Professional level Drug, Alcohol & Addiction Counselor Certification with State Certification
- MDAAC – Master's Level Professional Drug, Alcohol & Addiction Counselor Certification
- Anger Management Certification
- Domestic Violence Prevention Certification
- Crisis, Trauma and PTSD Counselor Certification

- Addiction Interventionist Certification
- Suicide Interventionist Certification
- Family Crisis Interventionist Certification
- Continuing Education for Professional Addiction Counselors

ACADC also offers associate, bachelor, master's, and doctorate degree programs for Ministry in Alcohol and Addiction Studies. ACADC is affiliated with the NAADAC and is an approved NAADAC education provider.
Certification expires: 8/31/12; Organization web site: http://www.acadc.org

2. Breining Institute

The Breining Institute offers professional certifications in addictions treatment and associate, bachelor, master's and doctorate degree programs in addictive disorders. The Breining Institute offers 13 professional certifications in addictions treatment:

- Registered Addiction Specialist (RAS)
- Advanced Registered Addiction Specialist (RASII)
- Master Level RAS (M-RAS)
- Clinical Supervisor Credential (CSC)
- Master Counselor in Addiction (MCA)
- Certified Women's Treatment Specialist (CWTS)
- Medication Assisted Treatment Counselor (MATC)
- Forensics Addiction Counselor (FAC)
- Certified Co-occurring Disorders Specialist (CCDS)

RAS reciprocity is offered with other states' organization, but requires completion of an exam.
Certification expires: 8/31/12; Organization web site: http://www.breining.edu

3. California Association for Alcohol and Drug Educators

The California Association for Alcohol and Drug Educators (CAADE) was incorporated as a nonprofit California corporation in 1985. Besides being an ADP-approved certifying organization, CAADE is also nationally accredited by NCCA and serves some 40 college and university programs in California, Arizona, and Nevada. CAADE offers five levels of Certified Addiction Counselor (CATC) certification (CATC I to CATC V), with each level requiring a more advanced degree than the previous (some college, associate degree, bachelor degree, master's degree, doctorate degree). For individuals whose education or degree for each of these five tiers is in nursing, the certification is designated as such (i.e., CATC I-N to CATC V-N).
Certification expires: 9/30/12; Organization web site: http://caade.org

4. American Academy of Health Care Providers in the Addictive Disorders

The American Academy of Health Care Providers in the Addictive Disorders (AAHCPAD**)** is an international credentialing body. The Academy offers a Certified Addiction Specialist (CAS) certification. The Academy offers this certification in 48 states and seven other countries. The CAS includes the following specialty areas of competency: alcoholism, drug addiction, eating disorders, gambling addiction, and sexual addiction.
Certification expires: 5/31/15; Organization web site: http://www.americanacademy.org

5. Board for Certification of Addiction Specialists—*Affiliated with the California Association of Addiction Recovery Resources (CAARR)*

CAARR is a nonprofit membership organization made up of recovery homes, sober living environments, neighborhood recovery centers, and social detoxification programs. The organization provides training and technical assistance to programs and individuals through state and county contracts.

The Board of Certification of Addiction Specialists is an operating unit of CAARR. The Board offers the Certified Alcoholism and other Drug Addiction Specialist (CAS) certification to qualifying individuals.
Certification expires: 7/31/12; Organization web site: http://www.caarr.org

6. California Association of Drinking Driver Treatment Programs (CADDTP)

The California Association of Drinking Driver Treatment Programs (CADDTP) is a nonprofit organization. CADDTP's membership includes most of the several hundred DUI programs licensed by the California Department of Alcohol and Drug Programs.

CADDTP certifies counselors, instructors, and administrators in licensed DUI programs as alcohol or other drug counselors. CADDTP has certified over 1,000 counselors.
Certification expires: 9/30/12; Organization web site: http://www.caddtp.org

7. California Certification Board of Alcohol and Drug Counselors

Affiliated with the California Association of Alcoholism and Drug Abuse Counselors (CAADAC), the California Certification Board of Alcohol and Drug Counselors (CCBADC) promotes itself as the largest AODA counselor certification organization in California and is nationally and internationally recognized. The AODA counselor certification process is designed to reinforce the ideology that addicted people can be rehabilitated through effective intervention by both degreed and non-degreed counselors who meet professional standards developed by the CCBADC.

The CCBADC offers the following certifications, presented as a "career ladder" in order of increasing levels of qualifications:

- Registered Student (RS)
- Registered Recovery Worker (RRW)
- Certified Alcohol Drug Counselor Associate (CADCA)
- Certified Alcohol Drug Counselor I (CADC-I)
- Certified Alcohol Drug Counselor II (CADC-II)
- Licensed Advanced Alcohol and Drug Counselor (LAADC)

The CCBADC also offers the following specialty certifications:

- Certified Clinical Supervisor (CA CCS and CCS)
- California Certified Prevention Specialist (CCPS)
- Certified Criminal Justice Addiction Professional (CCJP)
- Women's Treatment Specialist (WTS)

Certification expires: 4/30/17
Organization web site: https://www.caadac.org

8. California Certification Board of Chemical Dependency Counselors

The California Certification Board of Chemical Dependency Counselors (CCBCDC) is an independent nonprofit organization. The CCBCDC offers simple AOD counselor certification and re-certification (i.e., there are no multiple levels of certification).
Certification expires: 9/30/12
Organization web site: http://www.californiacertification.org

9. Indian Alcoholism Commission of California, Inc.

The Indian Alcoholism Commission of California, Inc. (IACC) was created in response to the demand for qualified counselors to serve Indian populations. The American Indian Certification of Substance Abuse Counselors/Administrators program strives to increase the effectiveness of substance abuse programs in Native American communities in California. Providers credentialed through this program are educated on Native American ways as well as on substance abuse treatment techniques and skills.
Certification expires: 9/30/12; Organization web site: http://iaccinc.net

D. Framework for Building an SUD Workforce of the Future

New Workforce Framework

A comprehensive SUD treatment delivery system must be responsive to the full range of patient needs (see Appendix A). The severity of patient needs (from low to high) must be addressed through evidence-based practices and other essential services. The need for uniform education, training, and competency standards for service providers, along with a clear identification of recognized and integrated evidence-based practices are needed to transition the health care services delivery system. This is essential to achieving optimal implementation of the ACA and building an effective continuum of services.

The ongoing differences in the demographics of the workforce and patient population suggest that training in cultural competence will be important. Also, curricula that treat substance use conditions similarly to other chronic disorders and provide more adequate basic preparation across all disciplines need to be implemented. Continuing education needs to support the broad adoption of both medication-assisted treatment and screening, brief intervention, and referral to treatment need to be identified and implemented. Effective training is accompanied by ongoing monitoring, supervision, mentoring, and other quality improvement activities, if innovations are to be adopted with fidelity. Training to work in teams will be essential for integration; such programs can be adapted from other fields, but they will need some tailoring specific to health care and substance abuse treatment (DiLonardo, 2011).

Standards for accreditation of formal addictions education programs and counselor licensure and/or certification consistent with the identified competencies should be implemented. While it is clear that requirements for certification need to be balanced against the need for an adequate workforce, the fact that almost half of the workforce in California is not certified puts consumers at risk and reduces the effectiveness of treatment activities (DiLonardo, 2011).

New Service Delivery Environment

As the integration of SUD services moves forward, the existing workforce will have to adjust to new service delivery environments, including primary care and other medical care settings (such as emergency rooms, etc.). Primary care and other medical care settings have a

different culture and language than the substance abuse treatment system. Primary care is characterized by a fast pace, brief interactions with patients, a high volume of patients, and a setting where interruptions are acceptable—and a constant balancing of needs and priorities is essential. The specialty substance abuse treatment system, however, focuses on the 50-minute hour and has a slower pace and few emergencies (at least in most outpatient settings). Bridges of understanding will no doubt need to be built, as well as appreciation for the differences in the systems.

Federally Qualified Health Centers (FQHCs) provide primary health care to about 19 million people per year nationally and are expected to rapidly double their capacity by 2015. FQHCs provide services to populations at high risk due to their goal of serving economically disadvantaged individuals in medically underserved areas, and are expected to play a central role in the identification and treatment of SUD nationally after 2014 (DiLonardo, 2011).

Successful integration of the treatment of substance use conditions within primary care and other medical settings may require new or refashioned types of workers, including health educators, primary care behavioral health specialists, expanded role care managers, and consultation-liaison clinicians (DiLonardo, 2011).

Knowledge/Practices/Skills/Competencies

Training and continuing education is needed to overcome barriers to the adoption of evidence-based practices for the treatment of substance use conditions and for all staff to work in an integrated environment. The following list includes the knowledge, practices/skills, and competencies needed within the field:

Universal Screening (Screening, Brief Intervention, and Referral to Treatment [SBIRT])

Screening, brief intervention, and referral to treatment (SBIRT) is effective in a variety of settings. Its effectiveness has been proven particularly in hospital emergency departments and trauma centers treating individuals with alcohol-related injuries. SBIRT has also been shown to be effective in primary care settings, where it is incorporated into other routine medical assessments such as measuring blood pressure. Core clinical components include: (1) brief intervention to raise awareness of risk and motivate change; (2) brief treatment for patients seeking help; and (3) referral to treatment for patients with more serious problems related to substance use.

Behavioral Therapies

Motivational interviewing, a treatment approach developed by William Miller and colleagues, has been well established as an effective way to promote change in individuals. This evidence- and consensus-based technique has been shown to elicit change in behavior and attitudes by helping clients to explore and resolve ambivalence. Training workshops provide participants with a fundamental understanding of motivational interviewing and specific techniques for promoting behavior change.

Cognitive behavior therapy (CBT) is a type of psychotherapeutic treatment that helps patients understand the thoughts and feelings that influence their behaviors. CBT is commonly used to treat a wide range of disorders, including phobias, addiction, depression, and anxiety. Cognitive behavior therapy is generally short-term and focused on helping clients deal with a very specific problem. During the course of treatment, people learn how to identify and change destructive or disturbing thought patterns that have negative influences on behavior.

Contingency management (CM: also known as "motivational incentives") is a behavioral strategy that has been shown to be very effective in promoting behavior change. CM is the application of positive reinforcement principles to reduce behaviors associated with drug use and increase behaviors associated with abstinence/recovery. In SUD treatment, CM has been shown to be extremely effective at increasing retention and reducing stimulant use.

Medication-Assisted Therapies (MAT)

The U.S. Food and Drug Administration has approved six medications indicated to treat substance use disorders. Oral naltrexone, disulfuram (Antabuse), and methadone also have long been available for the treatment of alcohol and opioid addictions. Over the past decade, the FDA approved three additional medications: buprenorphine to treat opioid addictions in 2002, acamprosate to treat alcohol addiction in 2004, and extended-release naltrexone (Vivitrol) to treat opioid addictions in 2006 and alcohol addiction in 2010. Two of the newer medications—buprenorphine and Vivitrol—are referred to as "office-based" medications because they can be prescribed and administered in a physician's office rather than in a specialty treatment or opiate treatment program. While the testing pipeline contains promising pharmacological therapies to treat methamphetamine or cocaine addictions, no medications are currently available.

Despite their proven effectiveness, national data shows discouragingly low MAT usage rates in community treatment settings. Many reasons contribute to low rates of adoption, including lack of staff understanding of the medications, organizational philosophy/staff beliefs about the use of medications, cost of medications, and lack of appropriate staffing. Offering a full range of effective treatment options, including medications, to patients maximizes consumer choice and encourages improved outcomes. Educating the field on MAT will be very important.

Behavioral Health Training Models/Programs

Addiction Technology Transfer Centers (ATTC)

As a nationwide, multidisciplinary resource for professionals in the addictions treatment and recovery services field, the ATTC Network serves to:

- **Raise awareness** of evidence-based and promising treatment and recovery practices,
- **Build skills** to prepare the workforce to deliver state-of-the-art addictions treatment and recovery services, and
- **Change practice** by incorporating these new skills into everyday use for the purpose of improving addictions treatment and recovery outcomes (http://www.attcnetwork.org/documents/overview_of_the_attc_network.pptx).

Established in 1993 by the Substance Abuse and Mental Health Services Administration (SAMHSA), the ATTC Network comprises 14 regional centers and a national office that serves all 50 states within the United States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and the Pacific Islands of Guam, American Samoa, Palau, the Marshall Islands, Micronesia, and the Mariana Islands.

Building on a rich history, **the ATTC Network continuously strives to improve the quality of addictions treatment and recovery services** by facilitating alliances among front-

line counselors, treatment and recovery services agency administrators, faith-based organizations, policy makers, the health and mental health communities, and consumers and other stakeholders. By connecting treatment providers to the latest research and information through activities such as skills training, academic education, online and distance education, conferences, workshops, and publications, the ATTC Network responds to the emerging needs of the field.

The Pacific Southwest Addiction Technology Transfer Center (PSATTC), a component of the UCLA Integrated Substance Abuse Programs, has for the past 10 years been a major training and workforce development resource in California. The PSATTC organizes, sponsors, co-sponsors, and conducts dozens of training events and programs throughout California every year. As part of a national workforce-needs assessment, the PSATTC has recently collected data on workforce needs in California.

University of Arizona

Arizona State University's Doctor of Behavioral Health (DBH) prepares the master's-level clinician for the newly transformed medical care marketplace, one in which evidence-based, cost-effective behavioral interventions replace treatment that results in undercare, overcare, or misuse of care. Arizona State University, in partnership with integrated behavioral care pioneer Nicholas A. Cummings, now offers this highly specialized behavioral health program—a Doctor of Behavioral Health—entirely online. It is a cohort-based, 54-credit-hour program with courses offered in 7.5-week terms. The DBH curriculum and internship are designed to not only meet the needs of the marketplace, but, more important, to prepare the next generation of behavioral health specialists to excel in the emerging behavioral health field. ASU's Doctor of Behavioral Health program prepares students with the professional skills they need to successfully conduct behavioral health interventions in a variety of health care settings. A master's degree is required for admission into the Doctorate of Behavioral Health program. To prepare students for emerging opportunities in primary care and other medical settings (such as disease management, health coaching, and related fields), the Doctor of Behavioral Health curriculum consists of three key components—core and elective courses, a student internship program, and a culminating project paper. Students are not required to write a dissertation to graduate with a Doctor of Behavioral Health.

The Doctor of Behavioral Health curriculum is customized according to the student's master's degree studies and by the type of license under which the student wishes to practice following graduation. There are different tracks students can pursue based on their prior master's-level academic degrees and work experience or licensure. (From http://asuonline.asu.edu/dbh/degree-program)

University of Massachusetts

The Center for Integrated Primary Care offers two web-based programs in Primary Care Behavioral Health and has more on the way. The Department of Family Medicine and Community Health has been training mental health professionals to provide services in primary medical care settings for over 15 years. It launched a certificate program in January 2007 and has trained hundreds of professionals since that date.

1. The Certificate Program in Primary Care Behavioral Health

The Certificate Program in Primary Care Behavioral Health is a highly successful training endeavor for behavioral health professionals who wish to fill the gaps left by traditional mental health training in order to be successful practitioners in primary care settings. This training is particularly targeted to prepare behavioral health professionals for the Patient Centered Medical Home model. Participants can include primary care medical providers from their practice in the first workshop at no additional charge, preparing the team for the PCMH. The course is delivered in six full-day workshops, two Fridays per month, for 3 months either in person or through distance learning via Adobe Connect webinars.

2. The Certificate Program for Care Managers and Navigators

The Training Program for Care Managers/Navigators is a newly developed program to help individuals in the nursing and mental health fields transition to providing intervention and coordination of services to help patients in the Patient Centered Medical Home achieve maximum health and independence. Care management includes assessment, care planning, facilitating referrals and implementation of services, intervention and monitoring, problem-solving, reassessment, and quality evaluation. The course is delivered in ten 2-hour sessions consisting of two 1-hour long modules, on two Tuesday afternoons per month (From http://www.umassmed.edu/cipc/training.aspx?linkidentifier=id&itemid=146448).

III. Recommendations

As SUD and MH integration efforts roll out in California, it is clear that the workforce will require a broad and diverse set of skills, which very few individuals in the current SUD or MH workforces possess. Primary care settings are very busy environments that value personnel who have a wide range of flexible skills to address multiple problems (Linzer, 2005, 2009). Primary care settings are not conducive to personnel who "only do one thing." In fact, according to experts in behavioral health integration, one of the most common contributors to failed behavioral health integration efforts is the employment of individuals who do not have a broad range of MH and SUD skills (Todd, 2002). They emphatically contend that moving the "specialty silos" of SUD services and MH services into primary care settings is a sure formula for poor acceptance of these services by primary care staff and suboptimal care for patients and their families (Grella, 2003, 2004). For the future success of integrating SUD and MH services into primary care, the traditional segregation of these services using personnel with a single set of specialty skills (i.e., SUD or MH) will impair integration efforts (Mangrum, 2008).

Independent efforts to integrate SUD and MH services with primary care (PC) result in gaps in competencies and increase misconceptions about both MH and SUD services (Donald, 2005). The administrative and cultural divisions between the two systems impede integration efforts; integrated systems, however, have been shown to provide better care than traditional systems (Burnam, 2006). As efforts to integrate SUD and MH services into PC continue (Carey, 2010), the continuation of segregated SUD and MH care will result in suboptimal practice standards, protocols, and tools used to identify and treat SU and/or MH problems. Poorly coordinated SUD and MH services will reduce the willingness of PC providers to incorporate SUD and MH services. The absence of collaboration between SUD and MH service providers

puts both fields at risk for exclusion from integration efforts with the PC service system. These are only some of the various issues that support the need for the MH and SUD fields to align efforts in their attempts to work with a much larger, often resistant, and better-funded PC system of care.

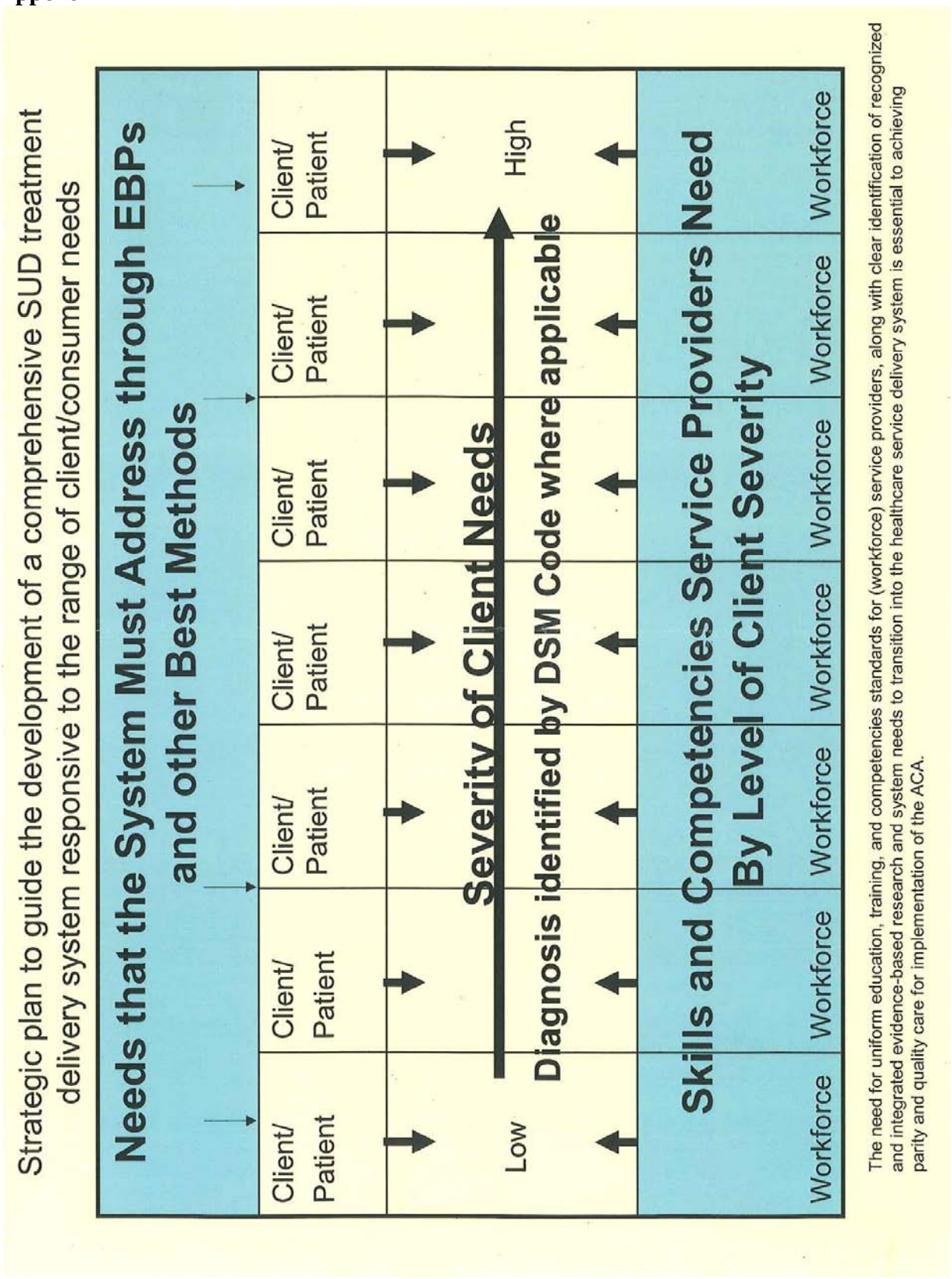
Due to unaligned payment systems, it is essential for the state to take leadership in sorting through the complexities of health care financing as tied to reimbursements and policy. By working with external agencies such as CMS (Centers for Medicare & Medicaid Services), the state can begin to align payment incentives and learn the processes involved in receiving reimbursement for SUD services in primary care. The state can then provide the necessary technical assistance related to adequate submission and receipt of claims for SUD services. Payment mechanisms need to incentivize all systems involved in collaborative care to motivate and sustain change.

The state needs to become immersed in other payment options, plans, purchasing mechanisms, and publicly funded managed care that will be tied to paying for treatment of SUDs under health care reform. This will involve high levels of involvement with external agencies and strategic planning to assure changes are in place to support billing and reimbursement. The expansion of Medicaid coverage and funding for FQHCs through health care reform—the American Recovery and Reinvestment Act (ARRA) of 2009 and the Patient Protection and Affordable Care Act (PPACA) of 2010—are expected to result in: (1) construction of new FQHCs, (2) expanded behavioral health services (Hoadly, 2004; LoSassa, 2010; Wells et al, 2010), (3) increased use of electronic health records that may facilitate service integration (CIMH IPI Report), and (4) a dramatic increase in the number of newly insured Medicaid patients who receive services from FQHCs (Ku et al., 2009).

At the present time, it is unclear what the best course of action is for California to develop a framework for a future workforce. In order to create such a framework, it is recommended that:

- A concerted **workforce planning effort** be initiated in which key stakeholders and workforce experts work in concert with the Department of Labor Workforce Investment Board (WIB).
- A series of meetings should be convened by an independent entity to provide a forum for a review of the critical issues that will **determine the SUD workforce needs** as well as discussions and plan development.
- A transition plan should be created to establish a counselor **certification infrastructure** in which there is a single counselor certification/license administered by the State of California.
- Ensure that the plan developed will create a workforce that will have the knowledge and skills needed to provide treatment in **multiple health service environments**. The workforce must have the capacity and ability to not only provide treatment in specialty care facilities, but also to facilitate SUD service delivery and reimbursement within an integrated health care system.

Appendix A


Strategic plan to guide the development of a comprehensive SUD treatment delivery system responsive to the range of client/consumer needs
Needs that the System Must Address through EBPs and other Best Methods
Client/ Patient
Client/ Patient
Client/ Patient
Client/ Patient
Client/ Patient
Client/ Patient
Low
Severity of Client Needs
High
Diagnosis identified by DSM Code where applicable
Skills and Competencies Service Providers Need By Level of Client Severity
Workforce
Workforce
Workforce
Workforce
Workforce
Workforce
The need for uniform education, training, and competencies standards for (workforce) service providers, along with clear identification of recognized and integrated evidence-based research and system needs to transition into the healthcare service delivery system is essential to achieving parity and quality care for implementation of the ACA.

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Appendix 2.4: Training Materials

Please visit this website for training materials:

http://uclaisap.org/Affordable-Care-Act/html/workforce-development.html

Chapter 3: Performance Measurement, Monitoring, Management, and Dashboard Development

Darren Urada, Ph.D., & Suzanne Spear, Ph.D.

Acknowledgments: We would like to thank ADP's Sally Jew-Lochman and Craig Chaffee for their feedback and assistance with this chapter.

Summary

UCLA analyzed CalOMS-Tx data and found that patients who received treatment within 14 days of being discharged from detoxification had better outcomes compared with patients that did not receive treatment within 14 days after detox. This supports the use of detoxification-to-treatment transfer rates as a performance measure. UCLA provided ADP staff with training and a program to enable ADP to analyze these types of transfer rates and to perform other types of episode analyses and will continue to work with ADP to develop and expand in-house expertise on these types of analyses, opening new opportunities to conduct evaluation and performance measurement.

To further improve performance measurement, ADP may wish to weigh the benefits and costs of improving the CalOMS-Tx system by adding a discharge measure of treatment visits modeled on data collected by New York treatment providers. Evaluation work could assess the extent to which adding such measures would benefit performance measurement efforts and therefore inform whether this would be a worthwhile effort.

Significant improvements have been made to UCLA's dashboard performance measure templates over the last year, based on feedback from ADP and the CADPAAC data and outcomes committee. This iterative process should continue and be extended to actual treatment programs to obtain their feedback.

Despite increases in coverage of substance use disorder services in insurance programs for low-income patients, referrals to SUD specialty care have changed very little at this point.

Introduction

UCLA built on prior work on performance measurement, monitoring, management, and dashboard development to address the following six objectives. The methods, findings, and recommendations for each of these will be discussed individually in this chapter.

- Objective 1: Continue to investigate and refine analyses of cases in which clients receive multiple treatment services by transferring between them ("Episode Analysis") for performance measurement purposes.
- Objective 2: Provide technical assistance to ADP staff to develop their expertise in conducting episode analyses. Produce a training document for ADP staff on how to conduct treatment episode analysis, i.e., tracking a unique client over time through multiple treatment admissions and discharges with only a specified time (14 days) between services. UCLA will provide technical assistance in person, via e-mail, and/or via telephone conversations to ADP.
- Objective 3: Investigate more efficient processes for episode analysis. The current method is complex and time consuming. It may be possible to create a more efficient program. UCLA will investigate, report back to ADP on their feasibility, and discuss the

trade-offs between spending time to develop these methods now versus potential time savings from development and use of the new methods.

- Objective 4: Check on what other states are doing to track and analyze patient episodes.
- Objective 5: Refine analyses of episode/transfer measurement as a county-wide performance measure.
- Objective 6: Track the association between county participation in the optional substance use disorders treatment coverage under the state's 1115 Medicaid Waiver (Low Income Health Program) and changes in client characteristics, services, performance, and client outcomes.

Objective 1: Continue previous EnCal work by continuing to investigate and refine analyses of cases in which clients receive multiple treatment services by transferring between them ("Episode Analysis") for performance measurement purposes.

As a member of the EnCal team, Dr. Suzanne Spear completed a doctoral dissertation entitled "Coordination of Care in Substance Abuse Treatment: An Interorganizational Network Perspective" to investigate the relationship between transfers and outcomes. The full dissertation has been sent to ADP separately; a brief summary of highlights from the dissertation follows.

The high cost of detoxification (detox) services and health risks associated with continued substance abuse make readmission to detox an important indicator of poor performance for substance abuse treatment systems. One major service gap in the continuum of care for substance use disorders associated with readmissions is when patients are not transitioned to treatment after a detox service. Detoxification, in and of itself, does not constitute complete substance abuse treatment. A successful detoxification process can be measured, in part, by whether an individual who is substance dependent enters and remains in some form of substance use disorder (SUD) treatment after detoxification (Substance Abuse and Mental Health Services Administration, 2006).

This study examined the problem of detox readmissions from an inter-organizational network perspective. There were four aims:

1) Determine the extent to which detox patients transfer to treatment within 14 days of discharge from a detox service,
2) Map the linkages between treatment programs,
3) Test the impact of detox programs' network ties on their patients' odds of re-admission to a detox service within one year, and
4) Evaluate the utility of patient transfer rates as a county-level performance measure for detox.

Methods

Data are from the California Outcomes Measurement System. Admission and discharge data for all patients treated in 2008–2009 in the 32 counties that offered detox were used to map linkages between treatment programs to predict the odds of patient readmissions to detox. Patient characteristics were included as covariates to adjust for differing patient populations in different

programs ("case-mix adjustment"). Contextual predictors included the number of outgoing ties to other programs and efficiency (proportion of direct ties within a network that are "non-redundant"). The total number of patients in the dataset was 150,955, including 25,423 detox patients.

Findings

Care Patterns among Detox Patients

At the point of discharge from detox, patients are at risk of relapse and overdose due to their reduced tolerance to alcohol and drugs. Entry into a treatment program after detox helps patients prevent relapse and lowers their odds of readmitting to detox. Patients in narcotic treatment programs (NTP) and (non-NTP) residential detox who transferred to treatment within 14 days of discharge had significantly lower odds of readmission, compared with patients that did not receive treatment directly after detox. Given the significance of transitioning to treatment from detox, it is necessary to examine characteristics of patients that benefit from coordination of care after detox and to identify any potential disparities among patients.

There appear to be certain types of patients that have a better chance of transferring to treatment than others. Women, individuals under 30, individuals who have a stable living environment, and individuals with Medi-Cal coverage are more likely to transfer from detox to treatment. Having Medi-Cal is a necessity for entering methadone maintenance for patients without the financial means to pay out of pocket. The Affordable Care Act of 2010 includes several provisions that will result in expanded coverage for all types of SUD treatment (Buck, 2011).

In terms of primary drug group, individuals receiving detox for methamphetamine or other drugs, i.e., opiates, have higher rates of transfers to treatment. Primary alcohol and cocaine users have the lowest rates of transfers to treatment. Involvement with the criminal justice system, e.g., being on parole or probation, is associated with higher rates of transfers. Lastly, patients in NTP detox programs are more likely to transfer to treatment than patients in residential detox programs. It is common for NTP detox patients to continue receiving methadone at the same facility as part of a long-term maintenance program; the transition from detox to treatment is much easier for these patients than for those who need to seek care from a different facility. Coordination of care across facilities is a challenge for service providers.

Inter-organizational Networks and SUD Treatment Programs

SUD treatment systems are fragmented and continuity of service over time is uncommon (McLellan, Weinstein, Shen, Kendig, & Levine, 2005). Patient transfers or transitions from one level of care to another within 14 days of discharge are mechanisms for linking patients with needed treatment services. Patient transfers are thought to represent efficiency and quality of care (Garnick, Lee, Horhan, Acevedo, & Washington Circle Public Sector Workgroup, 2009). The assumption is that such transfers represent coordination on the part of program staff and patients. In this study, patient transfers were framed in terms of linkages between programs. To what extent then can we use patient transfers to create a picture of SUD treatment systems?

Among all patients who were treated in the 32 counties in 2008–2009, 26.9% transferred at least once to a second service of any type within 14 days of discharge at some point during the observation period. While most patients do not transfer to another service within the 14-day window, the transfers that we can observe illuminate the types of relationships that exist or do not exist between programs. Over 84% of all treatment programs in the 32 counties in California had at least one link to another treatment program by way of transfers.

Based on interviews, the programs with more ties to other programs also appear to have well-established procedures in place to coordinate referrals. Relationships between staff members in programs appear to facilitate the transfers. Based on interviews, having personal ties to people at other programs allows for frequent updates on availability of beds, shorter wait lists, and smoother transitions because patients can start the next phase of their treatment without a break in service.

Predictors of Detox Readmissions: Patient-level predictors

Many of the patient-level predictors of detox readmissions are consistent with prior research on inpatient detox programs. In both NTP and residential detox settings, men had higher odds of readmission compared with women. Patient severity was associated with higher odds of readmission in residential detox programs but not in NTP detox programs. In residential detox, being homeless, unemployed, having had prior treatment, and increasing frequency of primary drug use in the past 30 days were associated with higher odds of readmission. Interviews with detox providers also suggested that readmissions are common among patients with unstable living conditions. Several respondents mentioned referring patients to homeless shelters and halfway houses.

Age was predictive of readmission in the NTP detox model, but the only significant difference found was with adults in the 42–48 age range, who had higher odds of readmission compared with adults under 30. Being over 37 years old was predictive of detox readmission in an inpatient hospital setting studied by Callaghan and Cunningham (2002). In that study, older age was seen as a proxy for a chronic drug use problem. Higher odds of readmission among older adults could be related to chronic conditions or greater challenges in obtaining health coverage such as Medi-Cal.

The use of medications as part of detox was associated with higher odds of readmission into residential detox programs. This result may seem counter-intuitive. Residential detox programs may administer medications to help patients detox from opiates, but in the absence of ongoing medication management, such as methadone maintenance, it is unlikely that short-term medication will prove effective. Residential detox programs are typically 4–5 days. Opiate replacement therapy is most commonly provided in the context of an outpatient NTP program, where the median time in treatment is about one year for heroin and other opiate users, and six months for Oxycontin users.

The use of medications other than opiate replacement therapies for treatment purposes was also associated with higher odds of readmission. While the question in CalOMS-Tx asks about medications for drug treatment specifically, e.g., naltrexone for alcohol dependence, it is possible that treatment counselors code this question as positive if patients are taking any type of

medication as part of their treatment, such as psychotropic medications or medications for other chronic disorders (Desiree Crevecoeur-MacPhail, personal communication, April 19, 2012). The report of any patient use of medications could function as another proxy for severity, if the medications are prescribed as part of their SUD treatment.

Differences by race were found among patients in residential detox programs. Compared with Whites, Blacks had significantly higher odds of readmission. On the other hand, patients in the "other race" category had lower odds of readmission compared with Whites. This contrasted with the study of inpatient detox programs by Mark, Vandivort-Warren, and Montejano (2006), where Whites had higher rates of detox readmissions and shorter time to readmission compared with Blacks. The higher odds of readmission among Blacks found in the present study may be due to their lower rates of transfers to treatment after detox. The study by Mark et al. (2006) indicated that fewer patients who transitioned to treatment after detox were readmitted to detox, but the authors did not report whether Blacks were less likely to transition to treatment following detox. The current finding does corroborate research by Stein et al. (Stein, Kogan, & Sorvero, 2009) on rates of follow-up care among Medicaid-enrolled adults who received detox or residential treatment services from 2004–2006. Stein et al. found that Blacks had lower odds of having follow-up care compared with Whites.

Heroin is one of the most commonly reported primary drugs in residential detox[4], yet heroin users in residential detox have higher odds of readmission compared with all other types of drug users. This may be attributable in part to the fact that residential detox programs do not commonly administer methadone, despite its proven efficacy for treating heroin addiction (National Institute on Drug Abuse, 2009). Given the short duration of residential detox and the lack of medication management common in "social model" residential detox programs, it is possible that these types of residential detox are not the best setting for individuals with heroin dependence. Consistent with this, one analysis of national treatment episode data found that opiate users were more likely to leave residential detox programs against medical advice (Office of Applied Studies, 2004).

Other factors, such as Medi-Cal coverage, can explain the higher rates of readmissions among heroin users. Medi-Cal coverage was found in this study to be positively associated with transfers to treatment among detox patients. Given greater access to treatment services as a result of Medi-Cal coverage, patients with Medi-Cal coverage had lower odds of readmissions, but only for patients in NTP detox.[5] While patients in residential detox are just as likely as patients in NTP detox to have Medi-Cal coverage, the finding that Medi-Cal coverage was not associated with readmissions in residential detox could be due to the higher level of severity found among patients in residential detox programs. A few measures of patient severity, e.g., prior treatment episodes and lifetime mental illness, were found to predict readmissions to detox.

[4] For example, in California in fiscal year 2010/11 (July 1, 2010, to June 30, 2011) heroin was the most commonly reported primary drug in residential detox after alcohol (Craig Chaffee, personal communication, August 13, 2012)

[5] Carrier et al. (2011) found an interesting structural issue with respect to Medicaid coverage and detox readmissions in New York State administrative data. The authors report that having coverage through a fee-for-service plan was predictive of repeat detox admissions, but managed care plans were not.

Predictors of Detox Readmissions: Program-level Predictors

Prior research has identified program-level factors associated with detox readmissions. For example, Campbell et al. (2010) found that proximity to outpatient treatment was predictive of treatment entry after detox. At the clinical level, certain interventions, such as intensive case management, are other program-level features that impact detox readmissions (McLellan et al., 2005).

Significant variation between detox programs in terms of patients' odds of readmission was found. This study found advantages to operating within networks with more varied direct or indirect (through another program) referral sources, i.e., "fewer redundant ties."

In the context of drug abuse treatment, this represents a capacity within programs to respond to patients' diverse needs and preferences. The placement of patients into treatment after a detox service can be complicated. In addition to a patient's preference for what the next step will be, there is the issue of limited availability of treatment slots/beds, particularly in the case of residential treatment. Additional complexity arises when a patient lacks stable housing, has a co-occurring mental health disorder, or does not have coverage through Medicare. Greater access to diverse programs, therefore, can facilitate the transfer of detox patients to treatment.

Program size was also found to be very highly correlated with network size. The more admissions a program has, the more ties it can potentially have to other programs. Program size has an independent effect on the odds of readmission. As program size increases, so do the odds of readmission. Larger programs were also found to be associated with detox readmission in previous research (Callaghan & Cunningham, 2002; Campbell et al., 2010). In addition, literature in the systems integration field suggests that larger networks may be harder to coordinate (Provan & Milward, 1995).

The types of programs contained within local networks may be an important determinant of patients' ability to access appropriate care. For instance, if a local network does not include a methadone maintenance clinic to treat heroin addiction, detox programs within this network have limited referral resources for their patients. Detox prepares patients for treatment, and refers them to treatment, but if the treatment programs that detox programs refer to are not effective—meaning they do not engage patients in treatment and retain them for a sufficient amount of time for patients to benefit—the value of detox is diminished and patients may go back to their normal patterns of SUD, and the cycle begins again with detox services needed. The literature on continuity of service in the SUD treatment field has identified important patient-level interventions that help patients transition to treatment, such as intensive case management, discharge planning, and help with transportation (Carroll, Triplett, & Mondimore, 2009; McLellan et al., 2005). In summary, ties may not all have the same value.

Detox-to-Treatment Transfers as a Performance Measure

Current addiction treatment standards conceptualize addiction as a chronic condition that requires engagement in rehabilitative care as well as ongoing monitoring to sustain the benefits of treatment (McCorry, Garnick, Bartlett, Cotter, & Chalk, 2000. Given the need for

comprehensive and ongoing care for individuals with SUDs, patient transfers across services are the subject of new performance measures (Garnick et al., 2009; McLellan, Weinstein et al., 2005).

The findings from this study support the use of detox-to-treatment transfer rates as a performance measure for detox programs. When patients enter into treatment programs within 14 days of discharge from detox, the odds of readmission to detox within a year are about one quarter to one half less than the odds of readmission among patients who do not transition to treatment (for NTP detox: odds ratio = .25, for residential detox: odds ratio = .48).

Conclusions and Recommendations

Detox programs may transition more patients to treatment and improve their outcomes if they gain awareness of their direct and indirect ties to treatment programs and formalize these relationships/partnerships to promote greater coordination of care. The findings from this study also support the use of detox-to-treatment transfer rates as a performance measure for treatment systems.

Objective 2: Provide technical assistance to ADP staff to develop expertise in conducting episode analyses. Produce a training document for ADP staff on how to conduct treatment episode analysis, i.e., tracking a unique client through multiple treatment admissions and discharges over time. UCLA will provide technical assistance in person, via e-mail, and/or via telephone conversations.

Methods

UCLA provided a half-day training session on June 19, 2012, at ADP, sharing a program written for use with SAS®[6] software to conduct episode analyses using CalOMS Tx data. The PowerPoint presentation used is included in Appendix 3.1, while the SAS program itself is included in Appendix 3.2. The program contains comments embedded within it that documented how various portions of the program function and how it can be modified as needed. This documentation is intended to allow users to understand how the program functions and thereby enable them to modify it as desired. In addition, Dr. Urada has been providing follow-up technical assistance to ADP research staff via e-mail and remains available to do so on a continuing basis. Prior to the training session, Dr. Urada also directly provided episode analyses needed by ADP for a federal report.

Conclusions & Recommendations

ADP research analysts should continue to work with and modify the episode analysis computer programs provided by UCLA, with technical assistance from UCLA as needed. By doing so, ADP will develop and expand in-house expertise on these types of analyses, opening new opportunities to conduct evaluation and performance measurement on AOD detox and treatment

[6] SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration.

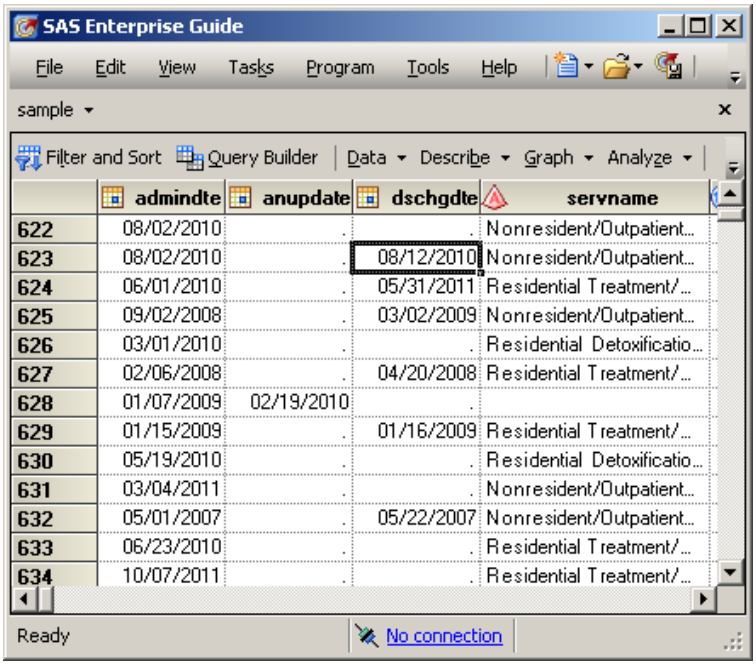
services. ADP's Performance Management Branch should work with CADPAAC Data/Outcomes Committee, ADP's Office of Applied Research and Analysis (OARA), and UCLA to determine products requiring episode analyses. ADP should continue to work with UCLA to obtain further training in episode analyses as needed.

Objective 3: Investigate more efficient processes for episode analysis. The current method is complex and time consuming. It may be possible to create a more efficient program. UCLA will investigate, report back to ADP on their feasibility, and discuss the trade-offs between spending time to develop these methods now versus potential time savings from development and use of a new method.

Methods

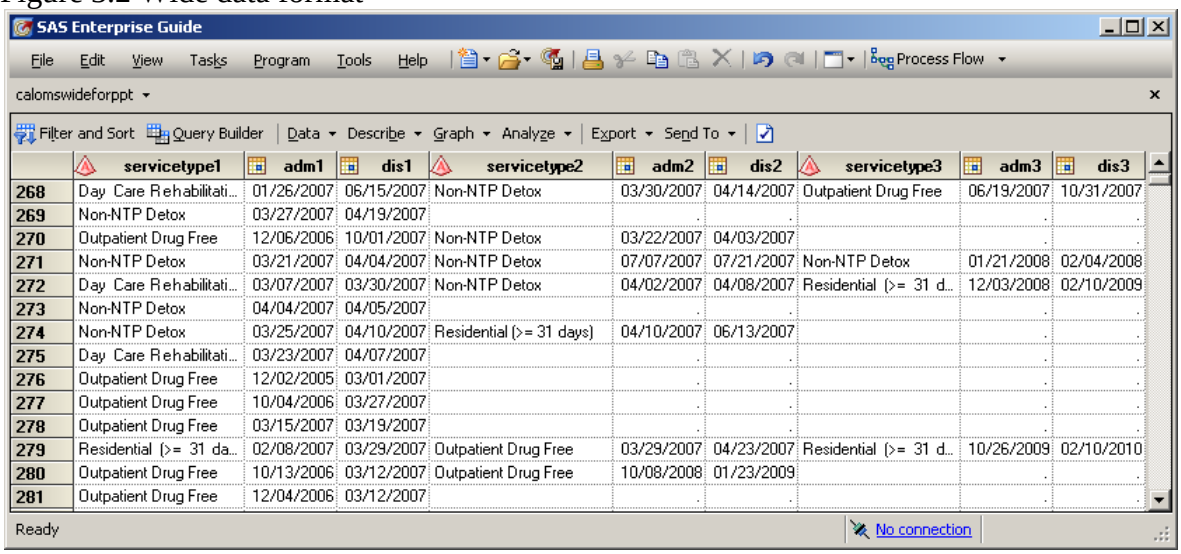
Analyses with SAS software are normally conducted with each data row existing as a case to be considered individually. However, CalOMS-Tx data is normally stored in long format, with each line representing an event (admission, discharge, or update). See Figure 3.1.

Figure 3.1 Long data format



Each person can therefore have multiple rows, which makes it difficult to conduct episode analyses that consider multiple events for each person. To remedy this situation, UCLA's methods rely on transposition of the CalOMS-Tx file into a "wide" file, or in other words transforming the dataset so that each row represents all treatment events for each single individual (see figure 3.2).

Figure 3.2 Wide data format



	servicetype1	adm1	dis1	servicetype2	adm2	dis2	servicetype3	adm3	dis3
268	Day Care Rehabilitati...	01/26/2007	06/15/2007	Non-NTP Detox	03/30/2007	04/14/2007	Outpatient Drug Free	06/19/2007	10/31/2007
269	Non-NTP Detox	03/27/2007	04/19/2007		.	.		.	.
270	Outpatient Drug Free	12/06/2006	10/01/2007	Non-NTP Detox	03/22/2007	04/03/2007		.	.
271	Non-NTP Detox	03/21/2007	04/04/2007	Non-NTP Detox	07/07/2007	07/21/2007	Non-NTP Detox	01/21/2008	02/04/2008
272	Day Care Rehabilitati...	03/07/2007	03/30/2007	Non-NTP Detox	04/02/2007	04/08/2007	Residential (>= 31 d...	12/03/2008	02/10/2009
273	Non-NTP Detox	04/04/2007	04/05/2007		.	.		.	.
274	Non-NTP Detox	03/25/2007	04/10/2007	Residential (>= 31 days)	04/10/2007	06/13/2007		.	.
275	Day Care Rehabilitati...	03/23/2007	04/07/2007		.	.		.	.
276	Outpatient Drug Free	12/02/2005	03/01/2007		.	.		.	.
277	Outpatient Drug Free	10/04/2006	03/27/2007		.	.		.	.
278	Outpatient Drug Free	03/15/2007	03/19/2007		.	.		.	.
279	Residential (>= 31 da...	02/08/2007	03/29/2007	Outpatient Drug Free	03/29/2007	04/23/2007	Residential (>= 31 d...	10/26/2009	02/10/2010
280	Outpatient Drug Free	10/13/2006	03/12/2007	Outpatient Drug Free	10/08/2008	01/23/2009		.	.
281	Outpatient Drug Free	12/04/2006	03/12/2007		.	.		.	.

In this format, the data can be analyzed using standard SAS software programming techniques and mathematical formulas. For example, the duration of the person's first treatment service can be calculated by subtracting the first admission date from the first discharge date. Likewise, the amount of time between the first and second service sets can be calculated by subtracting the date of the first discharge from the date of the second admission.

There is an alternative method of conducting episode analyses that could use the SAS software Lag, First, and Last functions. These functions allow some analyses to be conducted across rows, so that, in theory, it would be possible to recreate a program for SAS software that uses these functions. This would have the advantage of not requiring creation of a wide file, which requires more computer data processing time. Such computer processing time is relatively inexpensive. However, this would come at the cost of complicating the analyses, as each analytic step in the data processing would then require use of additional computer programming steps each time a new analysis is needed. This method would also make it more complicated to save and analyze individual-level summary data (for example, a variable that indicates whether an individual transferred from detoxification to treatment during a certain year) because rows do not represent individuals.

Conclusions & Recommendations

While it is possible that the alternative method could work, and might potentially save data management time, it comes at a cost of creating analytic complexity that may cancel out that time savings. Given that the data management program to create the "wide" file can be run with little effort and that this creates a data file that is easier for statisticians to analyze, UCLA (Dr. Urada) concluded that the wide file technique was likely a better option for ongoing ADP analyses at this time. However, UCLA will continue to investigate alternatives, including learning how other states approach this issue. UCLA recently acquired a program used by the State of New York to conduct related analyses using long format data (see Objective 4). UCLA has shared this code with ADP and will study it further; UCLA and ADP continue to conduct analyses using wide-format data.

Objective 4: Check on what other states are doing to track and analyze patient episodes.

Methods

To keep in touch with what other states have been doing in the area of performance measurement, over the course of the EnCal project, UCLA participated in the Interstate Community of Practice (Interstate COP) calls organized by Bill Phillips, the Associate Commissioner for Outcome Management and Systems Investment of the New York State Office of Alcoholism and Substance Abuse Services (OASAS). UCLA's participation also involved organizing one of the Interstate COP calls (February 2011). Over the last year, Interstate COP activity has waned, so UCLA inquired directly with Mr. Phillips to see whether OASAS was conducting episode analyses similar to what UCLA and ADP have been pursuing. Mr. Phillips referred UCLA to his colleague Dawn Lambert-Wacey, who is a member of the Washington Circle Public Sector group and serves as the Drug and Alcohol Services Information System (DASIS) manager for the New York State OASAS, which includes management of New York's equivalent to CalOMS-Tx. The following findings are derived from a phone call and e-mails with Ms. Lambert-Wacey, as well as related literature searches conducted by UCLA.

Findings

Consistent with the episode analyses and related performance work conducted by UCLA and ADP, other states use transfers (often referred to as "continuity of care") as a performance measure, in addition to measures of initiation and engagement.

Massachusetts, North Carolina, Oklahoma, and Washington use records that include each patient's individual dates of treatment (encounter data) to measure performance. These dates can be used to create measures of transfers from detoxification, as well as measures of initiation and engagement. By contrast, CalOMS-Tx only contains data collected at admission and discharge, which places California at a relative disadvantage in terms of performance measurement.

New York's OASAS has a data system that is similar to California's, in that it only contains data from admission and discharge, but it also contains a count of treatment visits. That is, at discharge, the treatment provider indicates the total number of days that the patient came in the program door and received treatment. This allows OASAS to create a fairly accurate measure of initiation[7] and engagement.[8] If there were no treatment encounters within the prior 60 days and then two or more encounters occurred, OASAS counts this as "initiation." If there were four or more visits and the length of stay was greater than 30 days, OASAS counts this as "engagement."

[7] Initiation – Washington Circle defines this as the percent of individuals who have an index outpatient or intensive outpatient service with no other alcohol or other drug (AOD) services in the previous 60 days and receive a second AOD service (other than detoxification or crisis care) within 14 days after the index service. http://www.washingtoncircle.org/pdfs/9a1.pdf

[8] Engagement—Washington Circle defines this as the percent of individuals who initiated outpatient treatment and received two additional services within 30 days after initiation. http://www.washingtoncircle.org/pdfs/9a1.pdf

In contrast, in the absence of the treatment visits measure in CalOMS-Tx, California is limited to measures of 14-day retention and 30-day retention as approximations of initiation and engagement, respectively. That is, it is assumed that if a person is in treatment at least 14 days, that they will have received an additional encounter, suggesting that they initiated treatment, and it is assumed that if a person is in treatment for at least 30 days, they will have received at least two additional encounters, thereby meeting the California definition of "engagement." Adding a measure of treatment visits in CalOMS-Tx may improve the state's ability to use initiation and engagement measures. Such a change could require a substantial investment of time and resources to change the system and to get treatment providers to report this information. Therefore, knowing just how much precision would be added by such a measure is important.

Garnick et al. (2009) reported New York's initiation and engagement measures (using time in treatment and the number of treatment visits) were in the same general, but wide, range as those reported in states that had full encounter data. For example, New York's engagement rate was 66% for outpatient and 57% for intensive outpatient. Engagement rates in Massachusetts, North Carolina, Oklahoma, and Washington ranged from 24–67% for outpatient and 34–76% for intensive outpatient. In California, the proxy measure for engagement, 30-day retention, was met by 77% of outpatient patients in 2010–2011. This suggests that the 30-day proxy might be an overestimate for engagement. This makes intuitive sense, as the 30-day proxy measure could include some people who appeared only at admission and on Day 30 to be discharged, for example (only 2 visits), which would not meet the definition of engagement.

Since initiation and engagement have become widely recognized measures (Harris, Bowe, Finney, & Humphreys, 2009), and have been found to predict outcomes (Garnick et al., 2007), ADP might consider weighing the benefits of adding a total treatment visits measure to CalOMS-Tx, weighed against the expense of changing the CalOMS-Tx system. ADP could also consider going a step further to adopt OASAS's practices for their Strengthening Treatment Access and Retention – Quality Improvement (STAR-QI) project, which collects encounter dates for up to the fourth encounter after admission; however, these might be weighed against an alternative to waiting to see if SUD providers adopt electronic health records that may provide an alternative route to collect full encounter data at some point in the future. This alternative seems questionable so far, as SUD providers have generally been slow to adopt such electronic systems (Gauthier, 2012).

On a separate but related topic, UCLA learned that OASAS conducts their analyses using techniques that are similar to UCLA's, such as using a SAS wide file and using a transfer measure defined as a second encounter within 14 days of a discharge. However, Ms. Lambert-Wacey also said that for some analyses, OASAS uses a program that analyzes initiation and engagement using a long file and the SAS software lag function (see Objective 3), and provided the code to UCLA. While this code cannot be used on CalOMS-Tx directly because it does not contain the treatment visits measure that OASAS collects, UCLA has shared it with ADP staff and will evaluate the code further to see if it makes sense to adapt it for CalOMS-Tx analyses.

For more information on OASAS performance measures and forms (e.g., discharge forms that include the total treatment visits measure) see:
http://oasasapps.oasas.state.ny.us/portal/page/portal/OASAS_APPS/Home

Conclusions & Recommendations

We recommend that ADP consider the possibility of improving the CalOMS-Tx system by adding a measure of treatment visits. Evaluation work could potentially be carried out to inform this decision by conducting a pilot study involving the collection of administrative encounter data from counties that have it available (Kern would be one example) to determine how accurately measures of actual initiation and engagement based on full encounter data match proxy measures (e.g., the 30-day retention proxy measure). Alternatively, UCLA/ADP could work with New York's OASAS to determine how well such alternative measures correlate in their existing database. Either alternative could be pursued if ADP determines that this is a priority, but neither is recommended if no foreseeable opportunities to alter CalOMS exist due to resource restrictions. This information would help inform ADP as to whether the addition of treatment visit counts is worth the cost.

Objective 5: Refine analyses of episode/transfer measurement as a county-wide performance measure.

UCLA received feedback from ADP and members of CADPAAC on dashboard templates proposed in the 2011 EnCal report (Antonini, Urada, Crèvecoeur-MacPhail, & Rawson, 2011). Based on this feedback, the templates were revised repeatedly over the course of the year. The revised dashboard templates below include state-wide data for the 2010–2011 fiscal year.

The following changes were made since the UCLA 2011 report:

All Dashboards:

- Removed "Number Discharged" column to simplify the template
- For clarity, replaced "Previous Report" title with the title "Comparison with Previous Report"
- For clarity, replaced "State Benchmark (State Avg?)" with the title "Comparison with State Benchmark"
- Replaced previous column headings that were "√ / **X**" symbols. Headings now say "Improved?" for the column comparing current and previous scores, and "Goal Met?" for the column comparing scores with the state benchmark.
- Green check marks and red Xs are now used to indicate improvement or non-improvement, respectively, in the column comparing current scores to previous scores, or whether the goal was met for the column comparing scores with the state benchmark.
- Filled in each template with actual statewide numbers from CalOMS-Tx, including benchmarks that likely would have been established based on the previous year's performance. These benchmarks are based on prior-year statewide averages that have been rounded up or down. Actual benchmarks would require review of prior numbers and human decisions on whether and where to place emphasis on maintaining current performance or pushing for higher scores.

DETOXIFICATION

Program Name: All **County:** All
Program Sub-Category: All **Reporting Period:** 7/1/2010 –6/30/2011
(Includes: Residential-Hospital and Non Hospital, Outpatient, NTP)
Number of Discharges: 21,758

Performance Measure	SCORE (%)	Comparison with Previous Report		Comparison with State Benchmark	
		Prev %	Improved?	Target %	Goal met?
Patients transferred to treatment within 14 days of discharge	**20.7%**	18.6%	✓	Over 20%	✓
Patients who "completed" detox	**48.3%**	49.3%	X	Over 50%	X
Patients NOT re-entering detox within 14 days of discharge	**96.3%**	95.5%	✓	Over 95%	✓
Immediate drop-outs**	**3.2%**	3.7%	✓	Under 4%	✓

** Same-day admission and discharge

Detoxification Dashboard Changes:

- To maintain consistency between the transfer measure (row 1), and Washington Circle measures using 14 days, and the measure of re-entry (third row), the re-entry measure was adjusted to count patients entering detox within 14 days of discharge rather than 30. Although fewer people transfer in 14 days than 30, the two measures are otherwise closely related, providing the same pattern of results.
- Made minor wording changes to clarify the definitions of the performance measures

LONG-TERM RESIDENTIAL (30 DAYS OR MORE)

Program Name: All **County:** All
Number of Discharges: 22,456 **Reporting Period:** 7/1/2010 –6/30/2011

Performance Measure	SCORE (%)	Comparison with Previous Report		Comparison with State Benchmark	
		Prev %	Improved?	Target %	Goal met?
Patients in treatment at least 30 days	**64.2%**	61.1%	✓	Over 60%	✓
Patients transferred to outpatient, intensive outpatient, or day care rehabilitative within 14 days of discharge	**8.1%**	8.3%	X	Over 8%	✓
Patients reporting primary drug abstinence* at discharge	**80.9%**	80.8%	✓	Over 80%	✓
Reliability of abstinence information (% of discharges with data)	**72.6%**	72.0%	✓	Over 70%	✓
Immediate drop-outs**	**1.1%**	1.2%	✓	Under 2%	✓

*abstinence is defined as 0 days used within the last 30 prior to discharge interview
** Same-day admission and discharge

Note: Performance dashboard for short-term residential would be the same, but without "patients in treatment at least 30 days" measure.

Residential dashboard changes:

- The title of the dashboard was changed from "Residential" to "Long-Term Residential (30 Days or More) to clarify the specific modality. Shorter-term residential programs would otherwise be penalized by the measure on the first row (patients in treatment at least 30 days)
- Added measure "Reliability of abstinence information (% of discharges with data"). This measure offsets a weakness of the measure "patients reporting primary drug abstinence at discharge." The weakness of the abstinence measure is that some providers may receive inflated scores on abstinence if they are only interviewing patients who participated in an in-person discharge interview (these tend to be treatment completers). This would tend to penalize providers who are good at contacting patients who dropped-out to do a discharge interview. These same providers would do well on the reliability question, however, and providers who are not good at conducting discharge interviews would be penalized.
- Made minor wording changes to clarify the definitions of the performance measures.

OUTPATIENT

Program Name: All **County:** All
Program Sub-Category: All **Reporting Period:** 7/1/2010 –6/30/2011
(Includes: Intensive outpatient, Day care rehabilitative)
Number of Discharges: 72,725

Performance Measure	SCORE (%)	Comparison with Previous Report		Comparison with State Benchmark	
		Prev %	Improved?	Target %	Goal met?
Pts in treatment at least 30 days	**76.5%**	77.4%	X	Over 75%	✓
Pts in treatment over 90 days *(retention)*	**48.0%**	50.1%	X	Over 50%	X
Pts reporting primary drug abstinence* at discharge	**74.1%**	75.7%	X	Over 75%	X
Reliability of abstinence information (% of discharges with data)	**53.2%**	51.7%	✓	Over 50%	✓
Immediate drop-outs**	**5.6%**	5.3%	X	Under 6%	✓

*abstinence is defined as 0 days used within the last 30 prior to discharge interview
** Same-day admission and discharge

Outpatient Dashboard Changes:

- Added measure "Reliability of abstinence information (% of discharges with data"). This measure provides a counterweight to the one above it, "pts reporting drug abstinence at discharge." The weakness of the abstinence measure is that some providers may receive inflated scores on abstinence if they are only interviewing patients who participated in an in-person discharge interview (these tend to be treatment completers). This would tend to penalize providers who are good at contacting patients who dropped-out to do a discharge interview. These same providers would do well on the reliability question, however, and providers who are not good at conducting discharge interviews would be penalized.
- To clarify the intent of the measure, changed the name of the measure on the last row from "Number of admits/discharges in the same day" to "Immediate drop-outs"

METHADONE MAINTENANCE

Program Name: All **County:** All
Program Sub-Category: All **Reporting Period:** 7/1/2010 –6/30/2011
Number of Admissions: 17,273

Performance Measure	SCORE (%)	Comparison with Previous Report		Comparison with State Benchmark	
		Prev %	Improved?	Target %	Goal met?
14-day "initiation"[1]	**92.8%**	93.7%	X	Over 90%	✓
30-day "engagement"[2]	**85.2%**	87.3%	X	Over 85%	✓
1-year retention[3] (among patients from prior year)	**22.6%**	29.4%	X	Over 30%	X

[1] Patients admitted during the reporting period that stayed in treatment at least 14 days. If no discharge exists, it is assumed the patient is still in treatment.
[2] Patients admitted during the reporting period that stayed in treatment at least 30 days. If no discharge exists, it is assumed the patient is still in treatment.
[3] Among pts admitted in the PRIOR year, the percentage that stayed in treatment at least 1 year as determined by the existence of an annual update or a discharge record. If no update or discharge is present, it is assumed the patient did NOT stay for one year and that the program failed to submit a discharge.

Methadone Maintenance Dashboard Changes:

- Removed "number of admits/discharges in same day" measure, as these were very rare
- Added footnotes to clarify that individuals with missing discharge information should be assumed to still be in treatment.
- Added footnote to clarify that the 1-year retention measure must be based on admissions in the prior year, unlike the other rows, which are based on current-year admissions. Also clarified that individuals with missing discharges and annual updates should NOT be assumed to have met the 1-year retention mark. Since more than one year has passed since these patients' admissions, there should be either a discharge or an annual update on file for all of them. If neither exists, either the person dropped out or the program failed to submit their discharge or annual update information, which, in either case, represents poor performance.

County-Level Dashboard

County: County X (not real county data) **Reporting Period:** 7/1/2010 –6/30/2011

Performance Measure	SCORE (%)	Comparison with Previous Report		Comparison with State Benchmark	
		%	Improved?	%	Goal met?
Patients transferred from detox to treatment within 14 days of discharge)	33%	30%	✓	Over 30%	✓
Patients transferred from residential to outpatient, intensive outpatient, or day care rehabilitative within 14 days of discharge	15%	16%	X	Over 15%	✓
Pts reporting primary drug abstinence* at discharge	75%	75%	✓	Over 75%	✓

*abstinence is defined as 0 days used within the last 30 prior to discharge interview.

Changes to County-Level Dashboard

- For clarity, changed title from "System Level Dashboard" to "County-Level Dashboard"
- Made minor wording changes to clarify the definitions of the performance measures, defining transfers as an admission occurring within 14 days of discharge.

Conclusions & Recommendations

Significant improvements have been made to the dashboard templates over the last year, based on feedback from ADP and the CADPAAC Data and Outcomes Committee. This iterative process should continue and be extended to actual treatment programs to obtain their feedback.

Objective 6: Track the association between county participation in the optional substance use disorders treatment coverage under the state's 1115 Medicaid Waiver (Low Income Health Program) and changes in client characteristics, services, performance, and outcomes.

California's 1115 waiver did not require an SUD benefit, but it allowed it as an option. Eight counties explicitly proposed add-on SUD services in their Low Income Health Program (LIHP) on their applications to the California Department of Health Care Services (DHCS; Kern, Orange, Riverside, San Francisco, San Mateo, Santa Clara, Santa Cruz, and Tulare; California DHCS, 2011a). However, application approval did not mean that a local LIHP was authorized to implement the program, only that DHCS will assist each applicant with working through the authorization and implementation process as counties work toward implementation beginning in July 2011 (California DHCS, 2011b). Furthermore, based on county reports provided verbally at CADPAAC LIHP meetings, implementation was generally slow and uneven across counties.

In theory, if primary care started screening and identifying SUD patients as a result of new funding for SUD services, then a few might also begin referring patients to specialty care (the

"RT" part of SBIRT) if they cannot be treated adequately onsite. If this type of integration activity were beginning to occur, a discernible up-tick in referrals to specialty care from health care providers might be seen in CalOMS-Tx data ("other health care providers" is one of the available "referral source" codes that can be selected at admission to indicate where a patient was referred from).

Methods

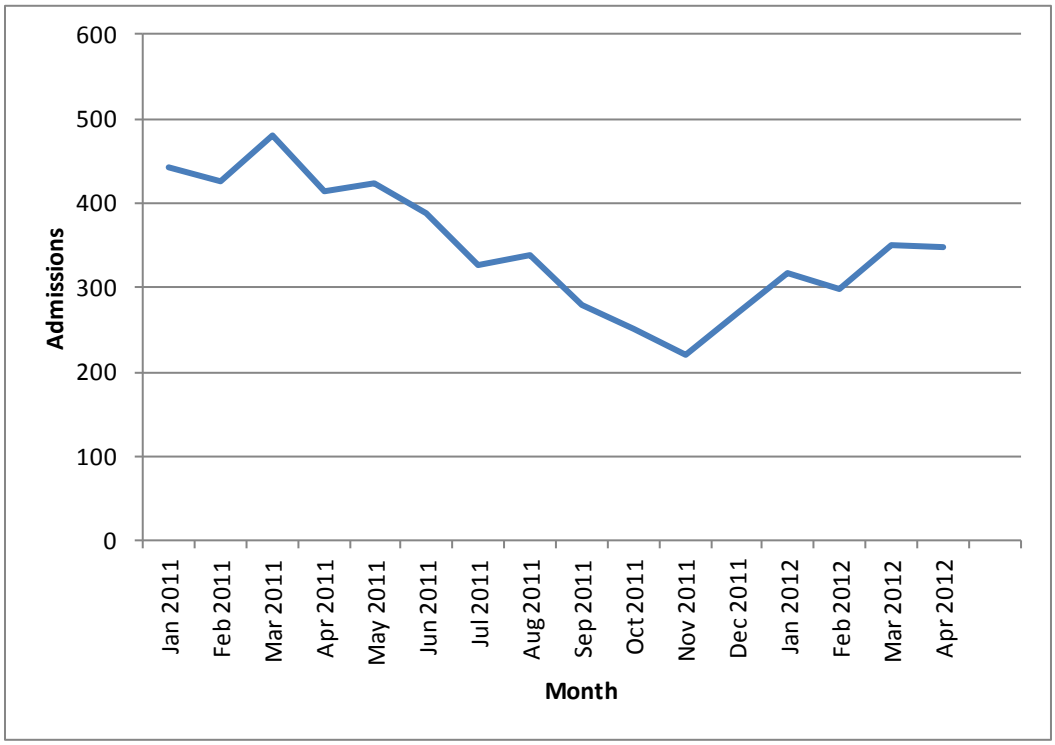
To examine referral trends using the most recent available CalOMS-Tx data, UCLA requested frequency tables on the health care provider referrals from the ADP Office of Applied Research and Analysis, and provided SAS software code to do so. Sally Jew-Lochman and Craig Chaffee provided these tables, in addition to further insights and analyses based on CalOMS-Tx data that was current as of July 16, 2012.

Findings

Figure 3.3 shows a graph of referrals to treatment from January 2011 through April 2012 (UCLA judged data for May and June 2012 to be too recent to be accurate due to data reporting lag). Perhaps the most important thing to note is that regardless of trends over time, these referral numbers are very small relative to the number of SUD treatment admissions. Each month's referrals from health care providers have accounted for between 2% and 3% of all admissions. Despite this, trends over time are of interest due to recent events.

Two dates are notable. First, LIHP technically got underway in July 2011, although nearly all participants attending the LIHP meeting at the ADP-CADPAAC meeting in January 2012 indicated that expansion of SUD treatment in association with the 1115 waiver had not yet been implemented to the point of treating patients, with the exception of San Francisco. Another significant date was January 1, 2011. On this date, a limited SUD benefit became available to all patients covered under the County Medical Services Plan (CMSP; currently used by 35 small counties).

Figure 3.3 Health Care Provider Referrals to SUD Treatment

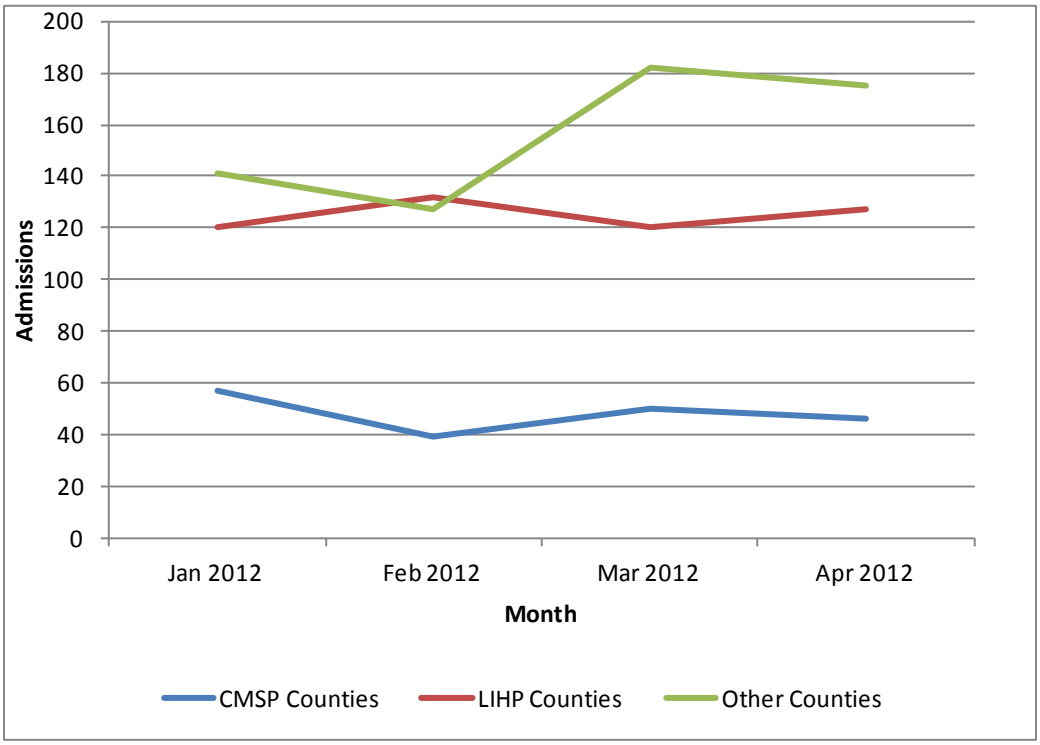


Consistent with the slow implementation associated with the 1115 waiver, there was no uptick in referrals from health care providers in July 2011. In fact, referrals continued a downward trend and reached a low in November 2011 of 220. Since then, the number of statewide referrals has increased to 349. However, this does not appear to be due to LIHP or CMSP referrals.

Figure 3.4 shows referrals since January 2012 separated by counties that participated in LIHP SUD benefit (8 counties), CMSP (35 counties), or neither LIHP or CMSP. Referral numbers were essentially flat in the LIHP and CMSP counties. Instead, the statewide increase in referrals seen in Figure 3.3 is primarily due to counties that participated in neither LIHP or CMSP.

On an individual county basis, San Francisco accounts for a disproportionate percentage of health care referrals, accounting for 23.2% of all such referrals statewide. For comparison, San Francisco County accounts for only about 2% California's population (U.S. Census, 2012). This is consistent with stakeholder discussions at the January LIHP meeting.

Figure 3.4. Recent Health Care Provider Referrals by County Type



Conclusions and Recommendations

CalOMS-Tx data is not the most sensitive tool to measure the delivery of SUD services in health care settings for a variety of reasons. Treatment providers may not always be aware that new admissions are the result of health care referrals, or may not indicate it on CalOMS-Tx forms. It could also be that SUD services are being provided but not referrals to outside organizations. Anecdotally, this is often the case with health care providers UCLA has communicated with. It is also true that there are a number of health centers that do not receive SUD service reimbursement from CMSP or LIHP that are actively involved in integration efforts through other means (e.g., Mental Health Services Act [MHSA] funding). Still, these CalOMS-Tx analyses do provide some valuable initial information.

One thing that is clear is that changes in SUD coverage in health care settings have not resulted in a flood (increase) of new referrals to SUD specialty care at this point. A great deal of work lies ahead; to link SUD and primary care (PC) providers and establish referral arrangements for better service outcomes.

Although CalOMS-Tx data should continue to be monitored for changes, additional data collection can provide more accurate tracking of services being provided entirely within PC settings (which would not be reported to CalOMS-Tx). Surveys of health centers and analyses of data on SUD treatment included in Uniform Data Set data reported by Federally Qualified Health Centers (FQHCs) would be the logical next steps to evaluate these trends. UCLA plans to do so in the future as part of its continuing work for ADP.

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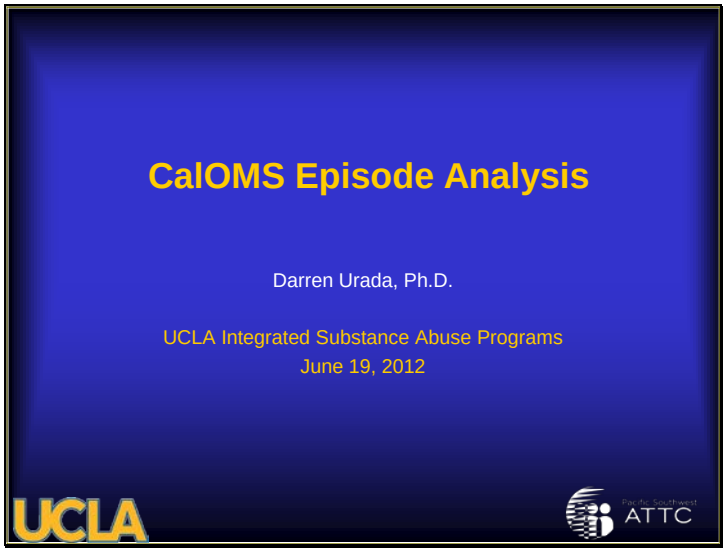
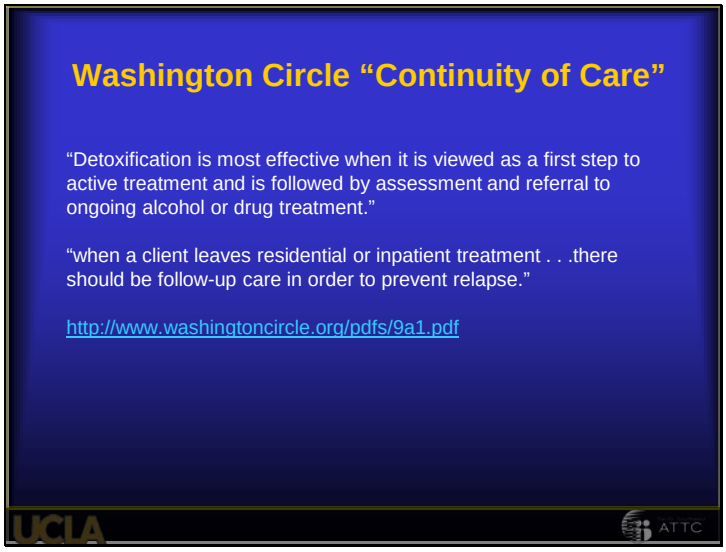
APPENDIX 3.1

CalOMS Episode Training Presentation


CalOMS Episode Analysis
Darren Urada, Ph.D.
UCLA Integrated Substance Abuse Programs
June 19, 2012
UCLA
ATTC


Washington Circle "Continuity of Care"
"Detoxification is most effective when it is viewed as a first step to active treatment and is followed by assessment and referral to ongoing alcohol or drug treatment."
"when a client leaves residential or inpatient treatment . . .there should be follow-up care in order to prevent relapse."
http://www.washingtoncircle.org/pdfs/9a1.pdf
UCLA
ATTC

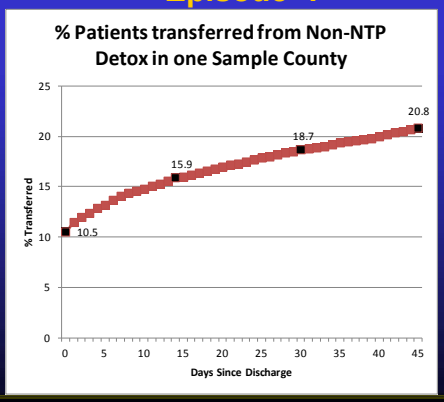
How many days between services should we allow when we define an "Episode"?

"Continuity of care refers to the percent of individuals who receive AOD services within 14 days after being discharged from a detox, residential, or inpatient stay, or after an assessment that results in a diagnosis of AOD disorders."

http://www.washingtoncircle.org/pdfs/9a1.pdf

UCLA ATTC

How many days between services should we allow when we define an "Episode"?



UCLA ATTC

UCLA's experiences

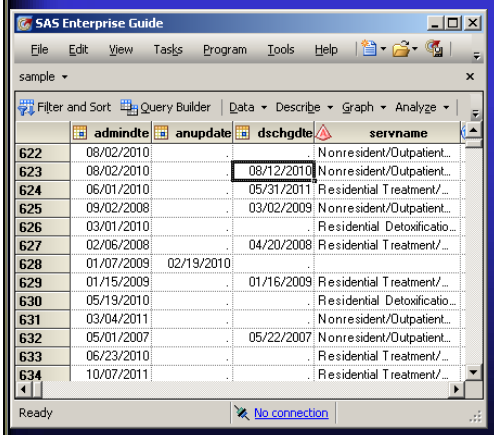
Whether we use 14 days or 30, we typically see the same general patterns in analyses. For example, demographic patterns are the similar at 14 and 30 days. The SAS program used can be easily set to 14, 30, or any other number of days.

Stakeholders have given us feedback that 30 days seemed like a long time. People may re-enter within 30 days without it having any connection to the first service.

One stakeholder told us that 14 days may be unrealistic because clients can't get into another service that quickly because of waiting lists. My response is: "that's the point."

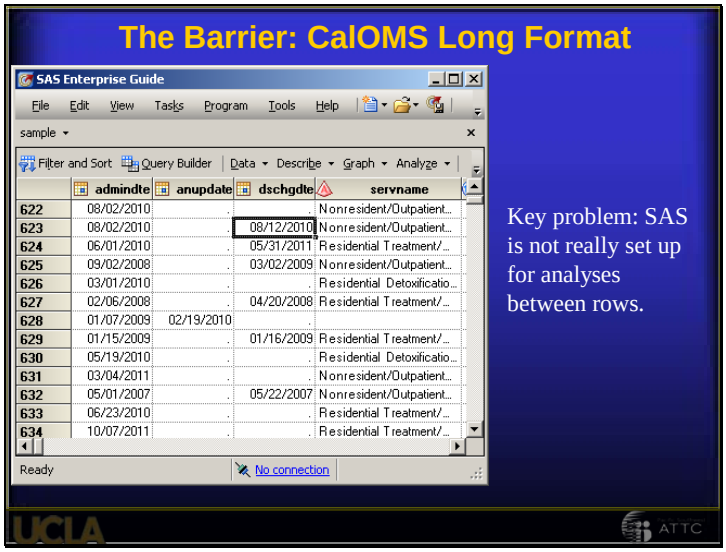
The point is to measure how well the system is performing.

The Barrier: CalOMS Long Format



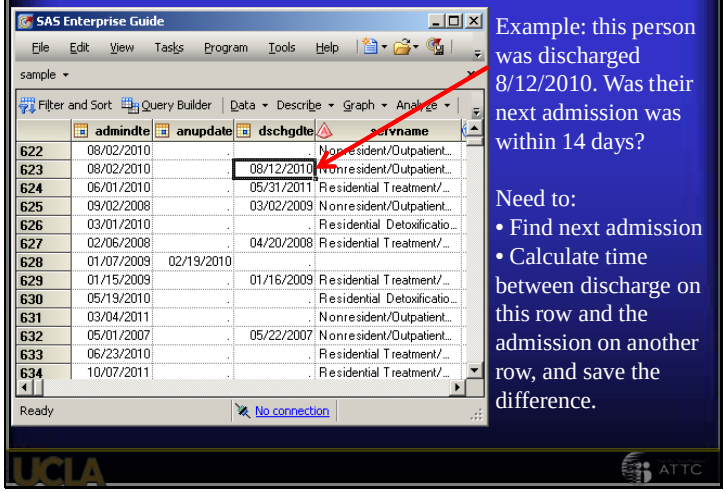
"Long" format
One row= One event
Some are admissions
Some are discharges
Some are updates

The Barrier: CalOMS Long Format



Key problem: SAS is not really set up for analyses between rows.

The Barrier: CalOMS Long Format



Example: this person was discharged 8/12/2010. Was their next admission was within 14 days?

Need to:

- Find next admission
- Calculate time between discharge on this row and the admission on another row, and save the difference.

CalOMS Wide Format

Admission 1
Discharge 1
Admission 2
Discharge 2
Admission 3
Discharge 3

This would be MUCH easier if each person's admissions and discharges were on one row. That is, in "wide" format. To do so, we run a SAS procedure called "Transpose" on EACH variable of interest.

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CalOMS Wide Format

Admission 1 Admission 2 Admission 3

Admission 1 Discharge 1 Admission 2 Discharge 2 Admission 3 Discharge 3

Discharge 1 Discharge 2 Discharge 3

Then we merge them. Note we have to do this for each variable we want on the wide file.

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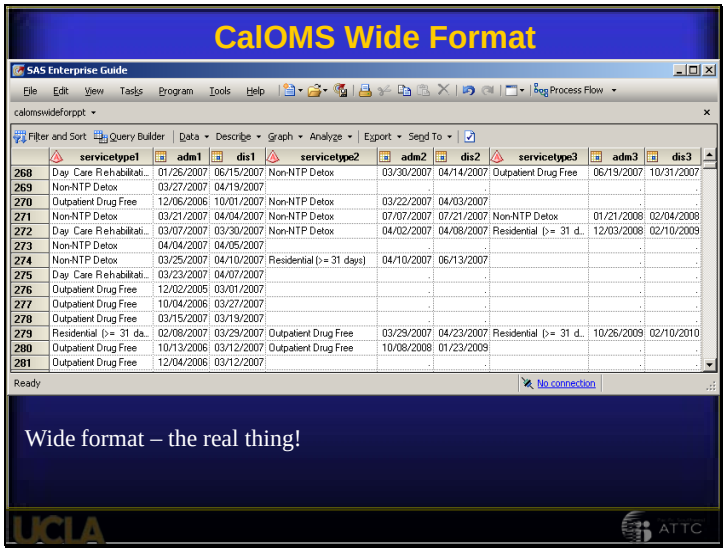
CalOMS Wide Format



Wide format – the real thing!

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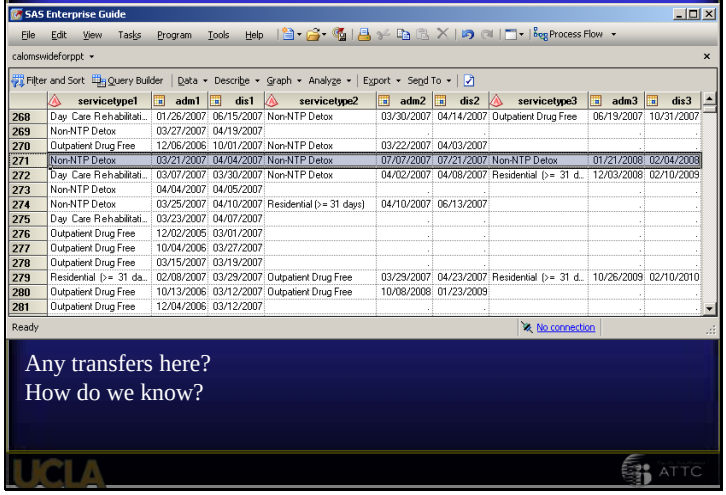
CalOMS Wide Format



Any transfers here?
How do we know?

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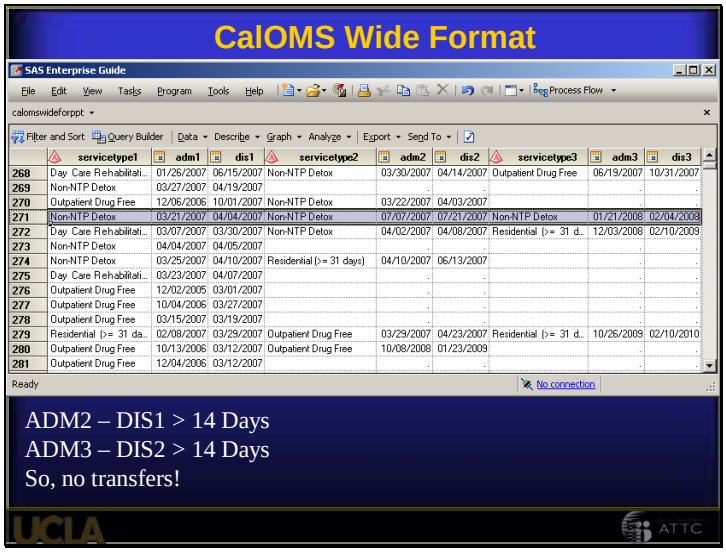
CalOMS Wide Format



ADM2 – DIS1 > 14 Days
ADM3 – DIS2 > 14 Days
So, no transfers!

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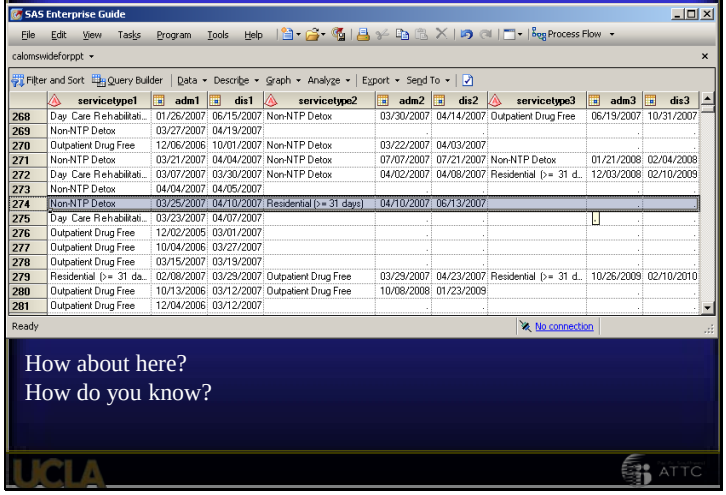
CalOMS Wide Format



How about here?
How do you know?

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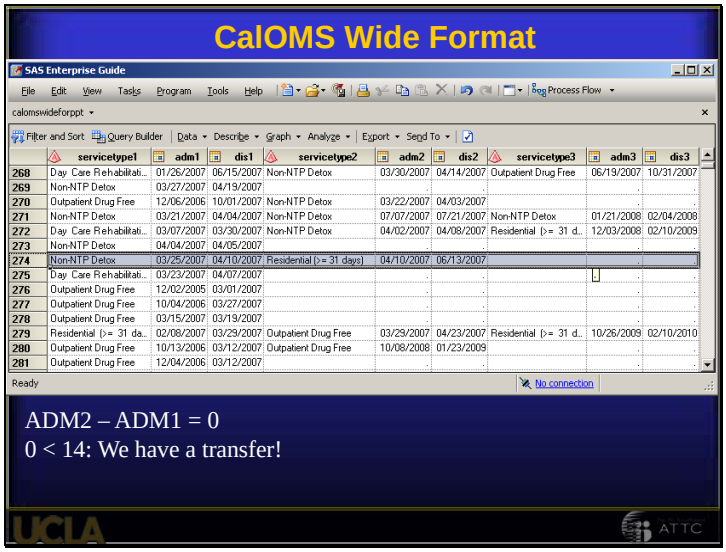
CalOMS Wide Format



ADM2 – ADM1 = 0
0 < 14: We have a transfer!

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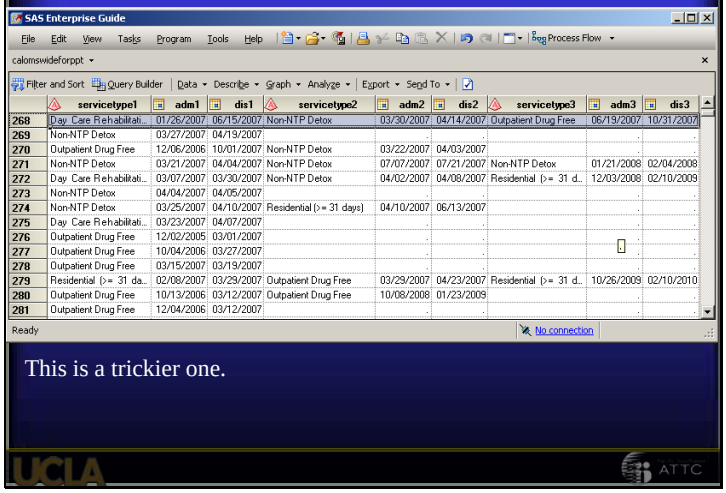
CalOMS Wide Format



This is a trickier one.

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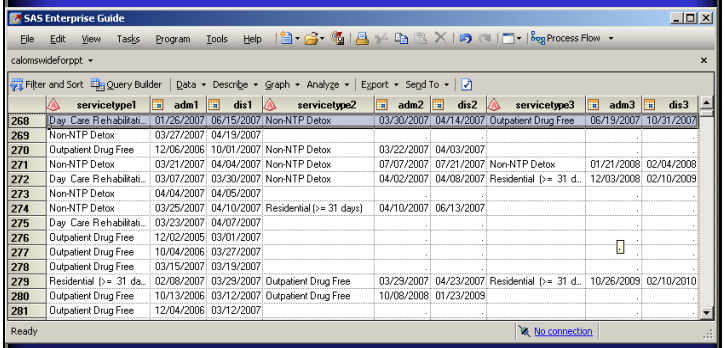
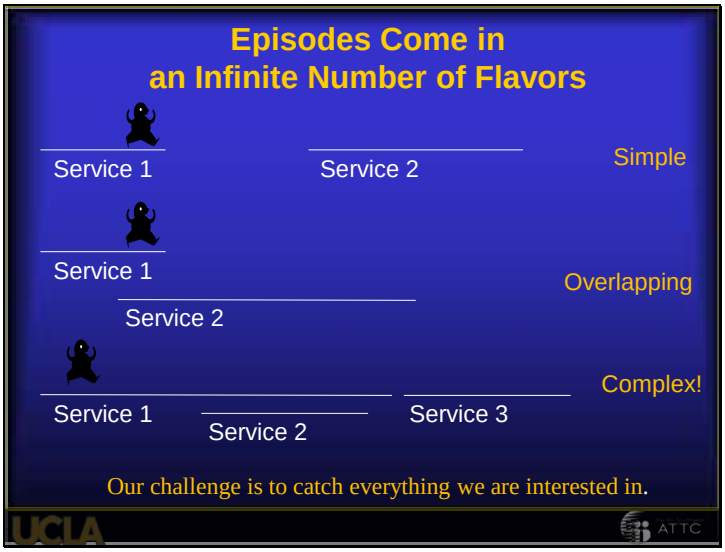
CalOMS Wide Format



ADM2 – DIS1 = -77, -77 < 14, so from service set 1-2, it's a transfer.
ADM3 – DIS2 > 14, so extra code would be needed to examine ADM3-DIS1 if you care about the 2nd transfer.

Episodes Come in an Infinite Number of Flavors



Our challenge is to catch everything we are interested in.

Other Considerations

- Admissions or Unique Clients?
- First transfer only, or all transfers?
- What do we do with “sideways” transfers, like Detox to Detox?
- Note to management: Analyses of variables that aren’t already in the wide file will require more time due to the need to transpose that variable (make it wide) and add it to the file.
- Data quality may be inconsistent. For example some stakeholders report that if there is a detox-residential combination, CalOMS data on the detox is not submitted.

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What else can be done with the wide file?

Classification of episodes into types of episodes, e.g. if Service 1 is residential, and Service 2 is outpatient, this is a “step down” transfer.

Analyses across service sets, e.g. change in drug use across a two-service-set episode is:
Drug Use Frequency at Discharge 2 – Drug Use Frequency at Admission 1.

Combinations of the above, e.g. are step-down transfers associated with greater reductions in drug use compared to episodes with no transfers?

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What else can be done with the wide file?

Adding CADDS (making a REALLY wide file)

Append CalOMS and CADDS (Data Combined; set Caloms CADDS; run;)

Remove admissions that appear in both (if people are admitted in CADDS, discharged in CalOMS, they would appear twice). Could be done by creating a CADDS UPI on both databases, then create a variable that combines UPI, date of admission, and provider ID, then unduplicate by that variable.

Proceed to create wide file as described with CalOMS.

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Next Steps

- Further documentation? (what would be useful?)
- Improvement of CalOMS identifier to improve episode identification.
- What else?

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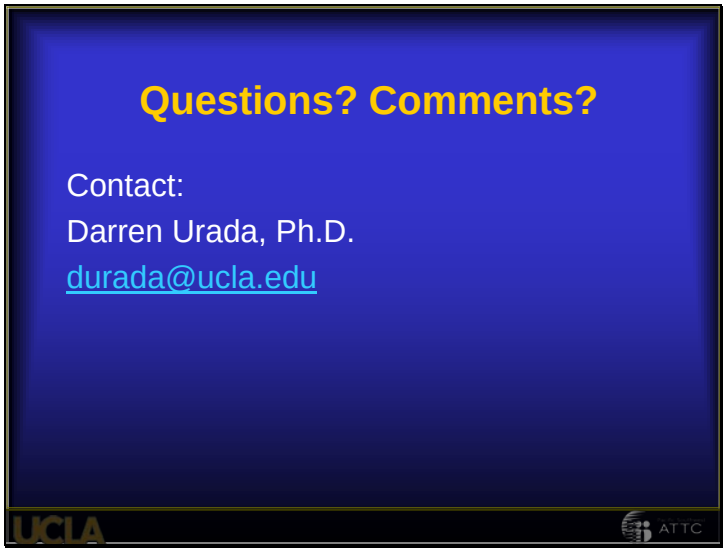
Questions? Comments?
Contact:
Darren Urada, Ph.D.
durada@ucla.edu
UCLA
ATTC

APPENDIX 3.2

CalOMS Episode Program

```
libname caloms 's:\caloms\training';


/*********************************************************/
/* THE PURPOSE OF THE FOLLOWING CODE IS TO SPLIT THE CALOMS */
/* DATAFILE INTO THREE SUBFILES:                         */
/* 1. ADMISSIONS                                         */
/* 2. DISCHARGES                                         */
/* 3. ANNUAL UPDATES                                     */
/*********************************************************/

*TRNGDATA is a one-county slice of the CalOMS live file;

*CREATES ADMISSION FILE;
DATA caloms.admissions;
SET caloms.trngdata;
if TOF in ("1" "2");
* 1 is an admission record. 2 is a resubmission of an admission record;
* TOF 3 is deletion of an admission. There are no 3's in the data (these records have
been deleted);
* Likewise, where there are resubmissions, they appears to have already replaced the
original record;
RUN;

*CREATES DISCHARGE FILE;
DATA caloms.discharges;
SET caloms.trngdata;
if TOF in ("4" "5");
* 4 and 5 are discharges, resubmission of discharges;
RUN;

*CREATES ANNUAL UPDATE FILE;
DATA caloms.updates;
SET caloms.trngdata;
if TOF in ("7" "8");
* 7 and 8 are updates, resubmission of updates;
RUN;

* Sorts data to prepare for later merging;
proc sort data=caloms.admissions out=caloms.adm;
by servset;
run;
proc sort data=caloms.discharges out=caloms.dis;
by servset;
run;
proc sort data=caloms.updates out=caloms.upd;
by descending anupdate;
run;
proc sort data=caloms.upd out=caloms.upd nodupkey;
by servset;
run;
* Keeps the LAST update.;


/*************************************************************************/
/* THE FOLLOWING MACRO RENAMES ALL VARIABLES IN THE DISCHARGE            */
/* FILE WITH THE PREFIX, "_D" AND ALL VARS IN THE UPDATE FILE WITH "_U"   */
/*                                                                       */
/* WE DO THIS SO WHEN WE MERGE IT THESE TOGETHER, THE VARIABLES DON'T    */
```

```
/* OVERWRITE EACH OTHER. FOR EXAMPLE, FREQUENCY OF USE IS NAMED FREQ. IF         */
/* MERGING ADMISSION AND DISCHARGE RECORDS, WE WANT TO KEEP BOTH THE ADMISSION   */
/* AND DISCHARGE FREQ.  BY RENAMING THEM, WE WILL KEEP FREQ AND D_FREQ, ALLOWING */
/* US TO COMPARE FREQUENCY OF USE AT ADMISSION AND DISCHARGE.                    */
/*******************************************************************************/

%macro vars(dsn,chr,out);
 %let dsid=%sysfunc(open(&dsn));
 %let num=%sysfunc(attrn(&dsid,nvars));
  data &out;
   set &dsn(rename=(
    %do i = 1 %to &num;
     %let var&i=%sysfunc(varname(&dsid,&i));
       &&var&i=&chr&&var&i
    %end;));
 %let rc=%sysfunc(close(&dsid));
  run;
%mend vars;

/** 1st parameter is the data set that contains all the variables.     **/
/** 2nd parameter are the characters used for the prefix.              **/
/** 3rd parameter is the new data set that contains the new variables. **/

%vars(caloms.dis, D_, caloms.dis)

%vars(caloms.upd, U_, caloms.upd)

* We are going to merge on servset, so that one variable needs to be called
* the same thing in all 3 datasets. Code below ensures that.;

data caloms.dis (rename=(d_servset=servset));
set caloms.dis;
run;

data caloms.upd (rename=(u_servset=servset));
set caloms.upd;
run;

data caloms.admdisupd (compress=yes);
merge caloms.adm caloms.dis caloms.upd;
by servset;
run;

* Creates some extra variables. ADP has their own versions of some of these (service2,
raceth), so these may not be needed;

data caloms.admdisupd (compress=yes);
set caloms.admdisupd;
length providtext $6.;
length service2 $25.;
providtext=provid;
county=substr(providtext,1,2);
druguse_freq_chg=.;
socsupport_chg=.;
IF service in (1) and medica in (2 3 4 5) then service2="NTP Maintenance";
IF service in (1) and medica in (1 99903) then service2="Outpatient Drug Free";
IF service in (2) then service2="Day Care Rehabilitative";
IF service in (3 4 5) and medica in (1 99903) then service2="Non-NTP Detox";
IF service in (3 4 5) and medica in (2 3 4 5) then service2="NTP Detox";
IF service in (6) then service2="Residential (<= 30 days)";
IF service in (7) then service2="Residential (>= 31 days)";
IF adminage<18 then agegrp="Under 18";
IF adminage>=18 and adminage<26 then agegrp="18-25";
```

```
IF adminage>=26 and adminage<36 then agegrp="26-35";
IF adminage>=36 and adminage<46 then agegrp="36-45";
IF adminage>=46 and adminage<56 then agegrp="36-55";
IF adminage>=65 then agegrp="65+";

raceth=racename;
If racename in ("Alaska Native" "American Indian") then raceth="AN/AI";
If racename in ("Asian Indian" "Cambodian" "Chinese" "Filipino" "Hawaiian" "Guamanian"
"Japanese" "Korean" "Laotian" "Other Asian" "Samoan" "Vietnamese") then
raceth="Asian/PI";
If racename in ("Other Race" "Two or More Races") then raceth="Other";
if ethnicity = "Hispanic" then raceth="Hispanic";

if d_dschgdte NE . then titd=d_dschgdte-admdate;

if d_freq NE . and freq NE . then druguse_freq_chg=d_freq-freq;
if d_soclsupp NE . and soclsupp NE . then socsupport_chg=d_soclsupp-soclsupp;
run;

* Sorts in preparation for conversion to wide file;
proc sort data=caloms.admdisupd (COMPRESS=YES);
by uid admdate;
run;


* A wide file must be created for EACH VARIABLE you want to look at;
proc transpose data = caloms.admdisupd out = caloms.admwide prefix = adm;
by uid;
var admdate;
run;
proc transpose data = caloms.admdisupd out = caloms.diswide prefix = dis;
by uid;
var d_dschgdte;
run;
proc transpose data = caloms.admdisupd out = caloms.servicetypewide prefix =
servicetype;
by uid;
var service2;
run;
proc transpose data = caloms.admdisupd out = caloms.pridtuwide  prefix = pridtu;
by uid;
var pridtu;
run;
proc transpose data = caloms.admdisupd out = caloms.countywide  prefix = county;
by uid;
var county;
run;

* For some variables that do not change, you don't have to make a wide file;
* Agegrp is included here but this is only appropriate if you're analyzing a limited
timeframe (e.g. 1 yr or less);
data racesexethnicage (keep=uid racename sex ethnicity agegrp);
set caloms.admdisupd;
run;
proc sort data=racesexethnicage nodupkey;
by uid;
run;


* This creates the main wide file that enables episode analysis;
data caloms.calomswide(drop=_name_ _label_ compress=yes);
merge caloms.admwide caloms.diswide caloms.servicetypewide caloms.pridtuwide
caloms.countywide racesexethnicage;
```

```
by uid;
run;

* Wait a sec, open that file that got created - it's really wide, isn't it?
* That's because if you have ONE person with 100 admissions, SAS creates enough
variables
* for 100 admissions for everybody, even though they're empty in almost all cases;
* This makes the file large and unwieldy. Analyses will run very slowly.
* So do we really need all of these empty variables?;

* Data starts with up to 18 admissions per person
* In larger datasets this can run up much higher (all county dataset from 2009 and up
has max of 85 admissions per person);

proc freq data=caloms.calomswide;
tables adm10;
run;

* Only 60 cases have at least 10 admissions.  That's 0.1% of cases in the dataset.
* Therefore For our purposes I recommend look at up to 10 cases only.
* This is somewhat arbitrary, but 0.1% will not make a meaningful difference for most
analyses.
* Keep this in mind, however. If extremely exact counts are a priority for a
particular analysis, you can keep all the cases.;

data caloms.calomswide(drop=adm11-adm18 dis11-dis18 servicetype11-servicetype18
pridtu11-pridtu18 county11-county18
compress=yes);
set caloms.calomswide;
run;


* With the data set up, we can finally, get to EPISODES;
data caloms.calomswide (compress=yes);
set caloms.calomswide;
ARRAY ADM (10) ADM1-ADM10;
ARRAY DIS (10) DIS1-DIS10;
FORMAT STARTDATE MMDDYY10.;
FORMAT ENDDATE MMDDYY10.;
ARRAY servicetype(10) servicetype1-servicetype10;
* Window: how many days between a discharge and next admission are allowed for it to
be an "episode";
 WINDOW=14;
* Startdate, enddate: what timeframe do you want to look at? Could look at particular
fiscal years, for example;
 STARTDATE='1JUL06'D;
 ENDDATE='1MAR12'D;
* Different types of transfers - defaults all to 0, meaning no transfer occurred. If
we find a transfer, it will become 1;
 ntpdetox_to_residentshort=0;
 ntpdetox_to_residentlong=0;
 ntpdetox_to_outpatient=0;
 ntpdetox_to_ntpmaintain=0;
 ntpdetox_to_nothing=0;
 ntpdetox_to_nonntpdetox=0;
 ntpdetox_to_ntpdetox=0;
 ntpdetox_to_daycarerehab=0;
 gotntpdetox=0;
DO i = 1 to 9;
 IF GOTNTPDETOX=0 THEN DO;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)>WINDOW) AND servicetype(i)="NTP
Detox"
       then ntpdetox_to_nothing=1;
```

```
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND servicetype(i)="NTP Detox" and adm(i+1)=.
       then ntpdetox_to_nothing=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="NTP Detox"
       and servicetype(i+1)='Outpatient Drug Free' then ntpdetox_to_outpatient=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="NTP Detox"
       and servicetype(i+1)="Residential (<= 30 days)" then
ntpdetox_to_residentshort=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="NTP Detox"
       and servicetype(i+1)="Residential (>= 31 days)" then
ntpdetox_to_residentlong=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="NTP Detox"
       and servicetype(i+1)="Non-NTP Detox" then ntpdetox_to_nonntpdetox=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="NTP Detox"
       and servicetype(i+1)="Day Care Rehabilitative" then ntpdetox_to_daycarerehab=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="NTP Detox"
       and servicetype(i+1)="NTP Detox" then ntpdetox_to_ntpdetox=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="NTP Detox"
            and servicetype(i+1)="NTP Maintenance" then ntpdetox_to_ntpmaintain=1;
* Line below ensures we only counts the first ntpdetox.
* Answers "during this time period what % of people transferred after their FIRST
discharge?";
* This is a measure of how well people are being transferred generally. Otherwise if
we counted all possible transfers,
  a small number of "frequent fliers" might skew results, especially if looking at
small datasets
  (e.g. at the program or county level);
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND servicetype(i)="NTP Detox" then gotntpdetox=1;
END;
END;
RUN;


* Same thing as above, this time for non-ntp detox;
data caloms.calomswide(compress=yes);
set caloms.calomswide;
ARRAY ADM (10) ADM1-ADM10;
ARRAY DIS (10) DIS1-DIS10;
ARRAY servicetype(10) servicetype1-servicetype10;
 WINDOW=14;
 STARTDATE='1JUL06'D;
 ENDDATE='1MAR12'D;
 nonntpdetox_to_residentshort=0;
 nonntpdetox_to_residentlong=0;
 nonntpdetox_to_outpatient=0;
 nonntpdetox_to_ntpmaintain=0;
 nonntpdetox_to_nothing=0;
 nonntpdetox_to_nonntpdetox=0;
 nonntpdetox_to_ntpdetox=0;
 nonntpdetox_to_daycarerehab=0;
 gotnonntpdetox=0;
 * counts only first non-ntpdetox (due to gotntpdetox do loop);
DO i = 1 to 9;
 IF GOTNONNTPDETOX=0 THEN DO;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)>WINDOW) AND
servicetype(i)="Non-NTP Detox"
       then nonntpdetox_to_nothing=1;
```

```
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND servicetype(i)="Non-NTP Detox" and adm(i+1)=.
       then nonntpdetox_to_nothing=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="Non-NTP Detox"
       and servicetype(i+1)='Outpatient Drug Free' then nonntpdetox_to_outpatient=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="Non-NTP Detox"
       and servicetype(i+1)="Residential (<= 30 days)" then
nonntpdetox_to_residentshort=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="Non-NTP Detox"
       and servicetype(i+1)="Residential (>= 31 days)" then
nonntpdetox_to_residentlong=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="Non-NTP Detox"
       and servicetype(i+1)="Non-NTP Detox" then nonntpdetox_to_nonntpdetox=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="Non-NTP Detox"
       and servicetype(i+1)="Day Care Rehabilitative" then
nonntpdetox_to_daycarerehab=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="Non-NTP Detox"
       and servicetype(i+1)="NTP Detox" then nonntpdetox_to_ntpdetox=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND
servicetype(i)="Non-NTP Detox"
       and servicetype(i+1)="NTP Maintenance" then nonntpdetox_to_ntpmaintain=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND servicetype(i)="Non-NTP Detox" then
gotnonntpdetox=1;
 END;
END;
RUN;

* Same thing as above, this time for residential tx;
data caloms.calomswide (compress=yes);
set caloms.calomswide;
ARRAY ADM (10) ADM1-ADM10;
ARRAY DIS (10) DIS1-DIS10;
ARRAY servicetype(10) servicetype1-servicetype10;
 WINDOW=14;
 STARTDATE='1JUL06'D;
 ENDDATE='1MAR12'D;
 resid_to_residentshort=0;
 resid_to_residentlong=0;
 resid_to_outpatient=0;
 resid_to_ntpmaintain=0;
 resid_to_nothing=0;
 resid_to_nonntpdetox=0;
 resid_to_ntpdetox=0;
 resid_to_daycarerehab=0;
 gotLTR=0;
 gotresid=0;
 * counts only first ntpdetox (due to gotntpdetox do loop);
DO i = 1 to 9;
 IF GOTresid=0 THEN DO;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)>WINDOW) AND servicetype(i)
       IN ("Residential (<= 30 days)" "Residential (>= 31 days)")
       then resid_to_nothing=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND servicetype(i)
       IN ("Residential (<= 30 days)" "Residential (>= 31 days)") and adm(i+1)=.
       then resid_to_nothing=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND servicetype(i)
       IN ("Residential (<= 30 days)" "Residential (>= 31 days)")
       and servicetype(i+1)='Outpatient Drug Free' then resid_to_outpatient=1;
```

```
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND servicetype(i)
       IN ("Residential (<= 30 days)" "Residential (>= 31 days)")
       and servicetype(i+1)="Residential (<= 30 days)" then resid_to_residentshort=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND servicetype(i)
       IN ("Residential (<= 30 days)" "Residential (>= 31 days)")
       and servicetype(i+1)="Residential (>= 31 days)" then resid_to_residentlong=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND servicetype(i)
       IN ("Residential (<= 30 days)" "Residential (>= 31 days)")
       and servicetype(i+1)="Non-NTP Detox" then resid_to_nonntpdetox=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND servicetype(i)
       IN ("Residential (<= 30 days)" "Residential (>= 31 days)")
       and servicetype(i+1)="Day Care Rehabilitative" then resid_to_daycarerehab=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND servicetype(i)
       IN ("Residential (<= 30 days)" "Residential (>= 31 days)")
       and servicetype(i+1)="NTP Detox" then resid_to_ntpdetox=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND (ADM(i+1)-DIS(i)<=WINDOW) AND servicetype(i)
       IN ("Residential (<= 30 days)" "Residential (>= 31 days)")
       and servicetype(i+1)="NTP Maintenance" then resid_to_ntpmaintain=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND servicetype(i) IN ("Residential (>= 31 days)")
then gotLTR=1;
  IF (STARTDATE<=DIS(i)<=ENDDATE) AND servicetype(i)
       IN ("Residential (<= 30 days)" "Residential (>= 31 days)") then gotresid=1;
 END;
END;
RUN;
*  log generates a note about missing values. is attributable to adm(i+1), doesn't
appear to be a problem.;

* If "to nothing" =0, that means they transferred to SOMETHING;
proc freq data=caloms.calomswide;
tables ntpdetox_to_nothing;
where gotntpdetox=1;
run;
proc freq data=caloms.calomswide;
tables nonntpdetox_to_nothing;
where gotnonntpdetox=1;
run;
proc freq data=caloms.calomswide;
tables resid_to_nothing;
where gotresid=1;
run;

* These give you the nitty-gritty detail of where people went;
proc freq data=caloms.calomswide;
tables
ntpdetox_to_residentshort ntpdetox_to_residentlong ntpdetox_to_outpatient
ntpdetox_to_ntpmaintain ntpdetox_to_nothing ntpdetox_to_nonntpdetox
ntpdetox_to_ntpdetox ntpdetox_to_daycarerehab gotntpdetox;
where gotntpdetox=1;
run;
proc freq data=caloms.calomswide;
tables
nonntpdetox_to_residentshort nonntpdetox_to_residentlong nonntpdetox_to_outpatient
nonntpdetox_to_ntpmaintain nonntpdetox_to_nothing nonntpdetox_to_nonntpdetox
nonntpdetox_to_ntpdetox nonntpdetox_to_daycarerehab gotnonntpdetox;
where gotnonntpdetox=1;
run;
proc freq data=caloms.calomswide;
tables
resid_to_residentshort resid_to_residentlong resid_to_outpatient
resid_to_ntpmaintain resid_to_nothing resid_to_nonntpdetox
resid_to_ntpdetox resid_to_daycarerehab gotresid;
where gotresid=1;
run;
```