The GAIN Q4 Level of Care Placement Decision Tree (3-18-23)

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The Global Appraisal of Individual Needs Quick Version 4 (GAIN Q4) level of care (LOC) placement rule for the final section of the American Society of Addiction Medicine (ASAM) summary table is designed to be consistent with both ASAM Patient Placement Criteria (PPC) version-3.0 and draft version- 4.0, which is currently out for comments.   There are two parts: the first recommends a general level of care placement based on "highest" expected level of care, the second lists additional service specifiers that go across levels of care and may impact specific program placement. Below is a text description of the logic for each and is then followed by pseudo code tables.   Note that changes in the ASAM ratings within the Quick Recommendation and Referral Summary (QRRS) narrative will result in changes in the recommendation in the summary table and vice versa. Clinicians can choose to keep or change either set of recommendations.   However, if they do make a change, they should document their "rationale" for the change to support later review for billing and/or quality assurance. This information is available as part of a clinical decision audit report section. Generally, clinicians would be expected to keep or go "lower" if feasible on the LOC recommendation. In contrast, the additional specifiers may require going in either direction or putting together a combination of services to address patient needs.

General Points

- Levels of care 4 to 1.7 assume that substance use disorder (SUD) criteria are met in the past 30 days.
- Level of care 1.5 assumes that lifetime substance use disorder (SUD) criteria are met.
- Level of care 1.0 (long term remission monitoring) assumes lifetime SUD and no SUD criteria in the past 90 days (i.e., at least early remission).
- The general level of care recommendation will give one level of care (LOC) recommendation by choosing the highest intensity of severity required. As you read down, this means taking the first one the person is eligible for.
- ASAM Dimensions 4 (readiness for change) and 5 (relapse potential) are typically addressed across LOC; while they are not use in the general level of care variable, they are used to trigger specific services in the second part.
- This is also designed to be forward compatible with the proposed PPC 4, where it has been proposed to move Dimension 6 (recovery environment) up to be Dimension 4 and to de-emphasize the subsequent dimension for level of care placement decisions.

Level of Care Placement (one variable, 12 mutually exclusive levels based on ASAM PPC 3 & 4)

- Table 1 shows the first steps for recommending a level of care (LOC) based on SUD severity in the past 30 days (first column) and need for medical management based on ASAM Dimension 1 (withdrawal management) or Dimension 2 (biomedical) (second column).
- Although broken out in the more detailed GAIN ASAM dimension cell ratings, for this decision rule, the second column is regardless of whether or not they are currently receiving treatment services.

Table 1. SUD and Medical Management Need Severity in the Prior 30 days			
Past 30 Day SUD Severity	Highest Severity in Dimensions B1	Highest Severity in Dimensions B2	Recommended Level of Care (LOC)
Severe	Severe	Severe	4.0 Medical Management
Severe	Severe		3.7 Medically Monitored Intensive Residential Services
Mild/Moderate	Moderate	Moderate, Severe	2.7 Medically Monitored Intensive Outpatient
Mild/Moderate	Moderate		1.7 Medically Monitored Outpatient

- Table 2 shows the next steps for recommending a level of care based on SUD severity in the past 30 days (first column) and need for clinical management/higher intensity service based on ASAM Dimension 2 (biomedical), Dimension 3 (psychological) or Dimension 6 (recovery environment) in the past 90 days (second column).
- Although broken out in the more detailed GAIN ASAM dimension cell ratings, for this decision rule, the second column is regardless of whether or not they are currently receiving treatment services.

Table 2. SUD and Clinical Management Severity in the Prior 30 days		
Past 30 day SUD Severity	Highest Severity in Dimension B2/ B3 / B6	Recommended Level of Care (LOC)
Severe	Severe	3.5 Clinically Managed High-Intensity Residential
Severe	Moderate	3.1 Clinically Managed Low-Intensity Residential*
Mild/Moderate	Severe	2.5 High Intensity Outpatient
Mild/Moderate	Moderate	2.1 Intensive Outpatient

- Table 3 shows the next steps for recommending a level of care based on lifetime SUD severity (first column) and the recency of any SUD symptom or weekly use (second column).
- A lifetime SUD diagnosis with no symptoms in the past 90 days is the DSM-5 definition of early remission and is used to recommend long term remission monitoring
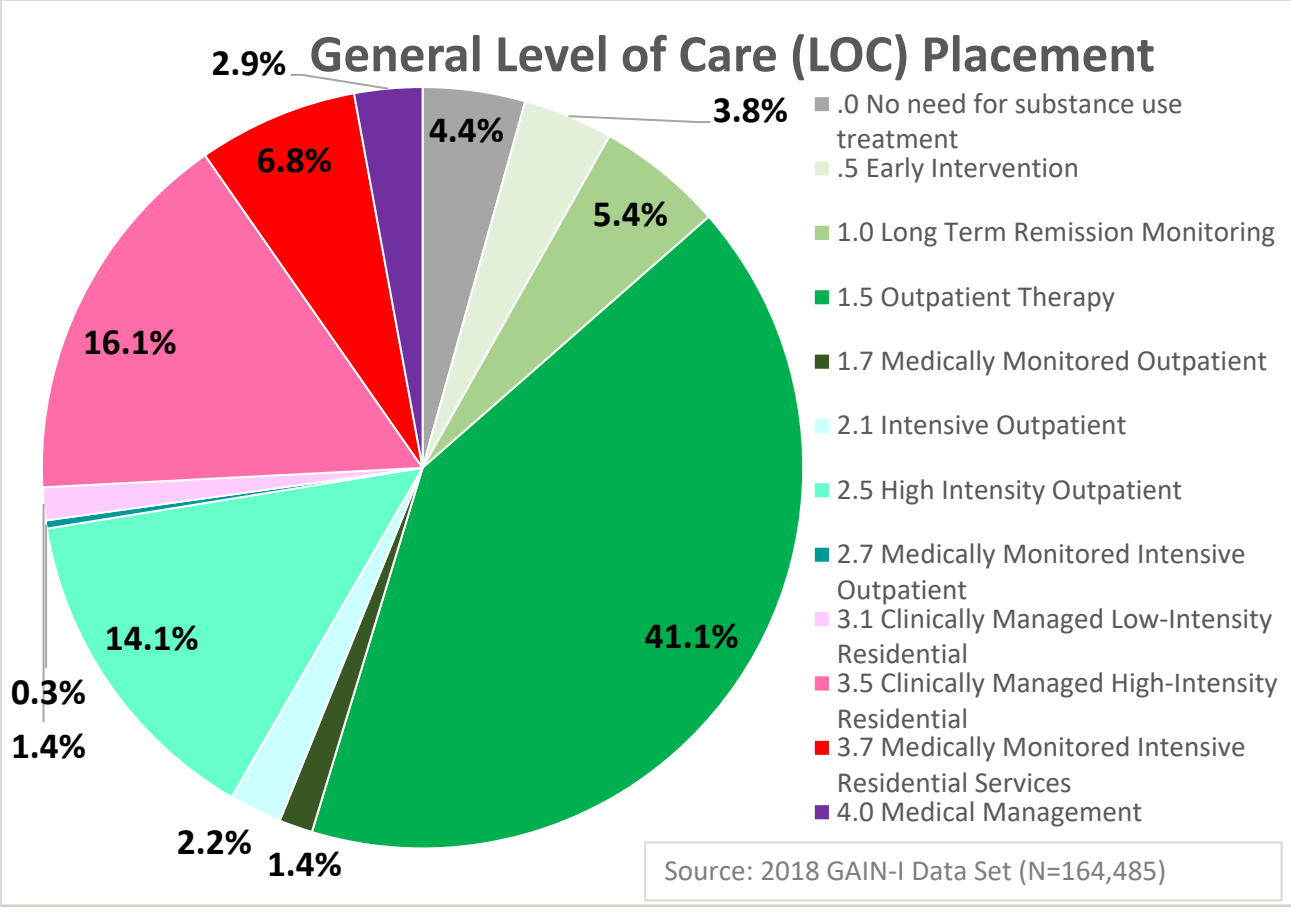
Table 3. Lifetime and past 90-day SUD/weekly use		
Lifetime SUD Severity	**Recency of Symptom**	**Recommended Level of Care (LOC)**
Any SUD	Past 90 days\a	1.5 Outpatient Therapy
Any SUD	More than 90 days ago	1.0 Long Term Remission Monitoring
No SUD	Past 90 days\b	0.5 Early Intervention
No SUD	None	0.0 No SUD Tx Required

\a also includes past year symptoms if any days in a controlled environment during the past 90 days.

\b or in any AOUD, MOUD or other treatment or controlled environment in the past 90 days

Figure 1 estimates the expected level of care breakdown based on interviews using the full Global Appraisal of Individual Needs Initial (GAIN-I) with 164,461 patients presenting for behavioral health services by 4,772 staff in 509 U.S. sites between 2002 to 2018.   The patients were 63% were male and 37% female. They self-reported being a mix of Caucasian (58%), African American (16%), Hispanic (14%), Mixed Race (9%), and Other Races/Ethnicities/Tribes (3%). They ranged from 12 to 99 years old, with an average age of 29. Based on substance use disorder criteria, frequency of use, and preference, their primary substance was cannabis (29%), alcohol (26%), heroin/other opioids (23%), cocaine/other stimulants (18%), and other drugs (4%). Staff were trained and certified on the use of the GAIN. The sites included a variety of institutional settings (e.g., addiction and mental health treatment agencies, justice agencies, child protective service agencies, student assistance programs) and ASAM levels of care.

Figure 1. Level of Care Placement

General Level of Care (LOC) Placement

Pie chart segments:
- 4.4%
- 2.9%
- 6.8%
- 16.1%
- 0.3%
- 1.4%
- 14.1%
- 2.2%
- 1.4%
- 41.1%
- 5.4%
- 3.8%

Legend:
- .0 No need for substance use treatment
- .5 Early Intervention
- 1.0 Long Term Remission Monitoring
- 1.5 Outpatient Therapy
- 1.7 Medically Monitored Outpatient
- 2.1 Intensive Outpatient
- 2.5 High Intensity Outpatient
- 2.7 Medically Monitored Intensive Outpatient
- 3.1 Clinically Managed Low-Intensity Residential
- 3.5 Clinically Managed High-Intensity Residential
- 3.7 Medically Monitored Intensive Residential Services
- 4.0 Medical Management

Source: 2018 GAIN-I Data Set (N=164,485)

Additional high priority needs and service specifiers to consider in actual placement (33 variables, all that apply)

- Table 4 lists other priority issues (column 1) and the service specifier to print and consider (column 2).
- Note that each of these variables is dichotomous and can be shown (on) or not (off).

Table 4. Additional Priority Service Specifiers that can impact placement		
Priority	Additional Service to Consider	Issue to address
1.	Medication for Alcohol Use Disorder (AUD)	Current alcohol use disorder (AUD) or already on medication maintenance for AUD
2.	Medication for Opioid Use Disorder (OUD)	Current opioid use disorder (OUD) or already on medication maintenance for OUD
3.	Contingency Management for Stimulant Use Disorder (StUD)	Current stimulant use disorder (StUD)
4	Pregnancy Post-Partum Women (PPW) program	Current or recency pregnancy

5.	Tobacco Cessation	13 to 90 days of tobacco use
6.	Motivational Interviewing	Low to moderate motivation for change
7.	Relapse Prevention	Moderate to severe risk of relapse
8.	Cognitive Impairment Program	Staff ratings of cognitive impairment or development disability that may require special programing
9.	Co-occurring Enhanced (COE)	Moderate to severe internalizing or externalizing mental health disorder in the past 90 days
10.	Suicide Crisis Intervention	Suicidal thoughts in the past 90 days
11.	Suicide Risk Assessment	Suicidal thoughts more than 90 days ago
12.	Psychosis Services	Visual or auditory hallucinations in the past 90 days (may include those already receiving services)
13.	Victimization / Safety Planning	Victimization in the past 90 days and/or concerns about it happening again in the imminent future
14.	Lifetime other high stress	Lifetime other high stress
15.	In-home Care	External (ADHD, Conduct) disorder and or delinquency issues; also used as an alternative to residential treatment
16.	Family Intervention	Family fighting in the home
17.	Recovery/ Supportive Housing	Homelessness or substance use in the home
18.	American Sign Language (ASL) Requirements	Deaf
19.	Visual Impairment Requirements	Blind
20.	Mobility Requirements	Difficulty with mobility or lost limbs
21.	Spanish Language Requirements	Assessment and likely treatment require use of Spanish language
22.	Other Language (verbatim) Requirements	Assessment and likely treatment require use of other language (named in verbatim)
23.	Justice System Involved	Person involved in justice system likely to continue under some kind of supervision and require coordination.
24.	Community Re-entry After Being in Controlled Environment 90 or more days	Abstinence / remission due to being in a controlled environment (justice, health, mental health or substance use) and may require additional services during community re-entry to avoid relapse.
25.	Support for Sustained Abstinence	Early and/or sustained abstinence may require linkage to self-help or other recovery support services to be sustained.
26.	Legally emancipated minor	Potential custody issue
27.	Runaway minor	Potential custody issue
28.	In foster care	Potential custody issue
29.	In juvenile facility	Potential custody issue

30.	Active-Duty Military	Activity Duty Military
31.	Veteran	Veteran
32.	Sexual or gender minority	Sexual or gender minority
33.	Other Cultural Considerations	Always printed for anything not covered above.

Editing recommendations.

The above recommendations are based on patient self-reported symptoms and needs expressed during the GAIN-Q4 interview. Clinicians, however, may have other information (e.g., referring documents, prior diagnosis/records, collateral reports), may need to resolve inconsistencies in self report (e.g., someone who reports treatment for mental health but no lifetime problems with mental health), may make differential diagnosis or decisions that imply different service plans (e.g., need for PPW services only available at one level of care; deciding what to do when a level of care not available in a community), or address concerns about people under or over reporting problems. Therefore, clinicians can and should modify one or more ratings (Diagnostic criteria A and dimensions B1-B6), the recommended LOC and service specifiers in the ASAM summary table or in the narrative text. A couple of key points when doing so:

- There is only one value for each rating, LOC or other service specifier (which can be on or off), so changes in either the ASAM summary table or detailed text will automatically be updated in the other.
- When any of these key variables are changed, clinicians should click a reason why and/or jot out a short note as to why it was changed in case later clinicians, supervisors, managed care and/or other quality assurance people need to review.
- While the above details are kept out of the main narrative report for simplicity of use by line staff, they are visible in the RRS placement audit report that may be required for insurance authorization and/or can be reset to the original value if needed.
- Changes to the ASAM diagnostic (A) or dimensional (B1-B6) ratings will cause the system to adjust the LOC and other service specifiers if applicable.
- The audit report shows the original value, the revised value and the reason they were changed, date, and who made the change.

Prevalence of Other Specifiers (across levels of care)

Label	Percentage
Lifetime other high stress	70%
Justice System Involved	60%
Tobacco Cessation	59%
Recovery/ Supportive Housing	51%
Relapse Prevention	28%
Family Intervention	28%
Medication for Alcohol Use Disorder (AUD)	27%
In-home Care	23%
Co-occurring Enhanced (COE)	17%

Contingency Management for Stimulant Use Disorder (StUD)	16%
Community Re-entry After Being in Controlled Environment 90 or more days	15%
Victimization / Safety Planning	12%
Medication for Opioid Use Disorder (MOUD)	11%
Suicide Risk Assessment	9%
Support for Sustained Abstinence	8%
Sexual or gender minority	8%
In foster care	4%
Mobility Requirements	4%
Suicide Crisis Intervention	2%
Pregnancy Post-Partum Women (PPW) program	2%
Veteran	2%
Active-Duty Military	2%
Motivational Interviewing	1.4%
Spanish Language Requirements	1.3%
In juvenile facility	0.7%
Cognitive Impairment Program	0.6%
Visual Impairment Requirements	0.3%
Other Language (verbatim) Requirements	0.2%
American Sign Language (ASL) Requirements	0.1%
Runaway minor	0.1%
Legally emancipated minor	0.1%
Psychosis Services	0.001%

Appendix A: LOC SPSS Syntax

*Severe past month SUD AND severe Withdrawal AND Severe Biomedical to 4. Medical managed residential (aka detox).
DO IF (SUDSMD5g=2) AND ((ASAMB1Q=4 or ASAMB1Q=7) AND (ASAMB2Q=4 or ASAMB2Q=7)).
   Compute LOCq=4.

*Severe past month SUD AND severe Withdrawal to 3.7 medically managed residential (aka social detox).
ELSE IF (SUDSMD5g=2) AND (ASAMB1Q=4 or ASAMB1Q=7).
   Compute LOCq=3.7.

*Moderate past month SUD AND moderate Withdrawal AND moderate to severe Biomedical to 2.7 Medically monitored intensive outpatient.
ELSE If (SUDSMD5g=1) AND (ASAMB1Q=3 or ASAMB1Q=6) AND (ASAMB2Q=3 OR ASAMB2Q=4 OR ASAMB2Q=6 OR ASAMB2Q=7).
Compute LOCq=2.7.

*Moderate past month SUD AND (on AOUD/MOUD or moderate withdrawal) to 1.7 Medically monitored outpatient.

ELSE If (SUDSMD5g=1) AND ((MAOUD=1) OR (ASAMB1Q=3 or ASAMB1Q=6)).
   Compute LOCq=1.7.

* Severe past month SUD AND (severe Biomedical or severe Psychological OR severe Environment) to 3.5 Clinically Managed High intensity residential.
ELSE If (SUDSMD5g=2) AND ((ASAMB2Q=4 OR ASAMB2Q=7) OR (ASAMB3Q=4 or ASAMB3Q=7) OR (ASAMB6Q=4 or ASAMB6Q=7)).
   Compute LOCq=3.5.

* Severe past month SUD AND (moderate Biomedical OR moderate Psychological OR moderate Environmental) to 3.1 Clinical Managed Low Intensity Residential.
ELSE If (SUDSMD5g=2) AND ((ASAMB2Q=3 OR ASAMB2Q=6) OR (ASAMB3Q=3 or ASAMB3Q=6) OR (ASAMB6Q=3 or ASAMB3Q=6)).
   Compute LOCq=3.1.

* Moderate past month SUD AND (severe Biomedical OR severe Psychological OR severe Environment) to 2.5 High intensity outpatient.
ELSE If (SUDSMD5g=1) AND ((ASAMB2Q=4 OR ASAMB2Q=7) OR (ASAMB3Q=4 or ASAMB3Q=7) OR (ASAMB6Q=4 or ASAMB6Q=7)).
   Compute LOCq=2.5.

* Moderate past month SUD AND (moderate Biomedical or moderate Psychological or moderate Environmental) to 3.1 Clinical Managed Low Intensity Residential.
ELSE If (SUDSMD5g=1) AND ((ASAMB2Q=3 OR ASAMB2Q=6) OR (ASAMB3Q=3 or ASAMB3Q=6) OR (ASAMB6Q=3 or ASAMB6Q=6)).
   Compute LOCq=2.1.

* Moderate to severe past 90 day SUD OR (moderate to severe past year SUD with any days in a controlled environment) to 1.5 Outpatient therapy.
ELSE If (SUDS90D5g>0) OR (SUDSYD5g>0 AND MAXCEG>0).
   Compute LOCq=1.5.

* Severe lifetime SUD in remission during the past 90 days to 1.0 long term remission monitoring.
ELSE If (SUDSLD5g=2) AND (SUDS90D5g=0).
   Compute LOCq=1.

*No/low Lifetime SUD AND past 90 day substance use or alcohol/drug use to intoxication/all day OR any past 90 day SUD sx, OR on AOUD/MOUD, OR in other treatment, OR current incarceration to 0.5 Early intervention.
ELSE If (SUDSLD5g=0 AND (Sup90>0 OR RecencySx>2 OR MAOUD=1 OR OTtx=1 OR CurrentIncarceration=1)).
   Compute LOCq=0.5.

* No substance while in the community to 0 no need for SUD treatment.

ELSE If (SUDSLD5g=0 AND Sup90=0 AND CurrentCommunity=1).
   Compute LOCq=0.
END IF.

FORMATS LOCq (F2.1).
VARIABLE LABELS LOCq 'Level of Care Recommended on Q4 GRRS'.
VALUE LABELS LOCq
4' Medical Management
'3.7' Medically Monitored Intensive Residential Services
'2.7' Medically Monitored Intensive Outpatient
'1.7' Medically Monitored Outpatient
'3.5' Clinically Managed High-Intensity Residential
'3.1' Clinically Managed Low-Intensity Residential
'2.5' High Intensity Outpatient
'2.1' Intensive Outpatient
'1.5' Outpatient Therapy
'1' Long Term Remission Monitoring
'0.5' Early Intervention
'0' No need for substance use treatment.

Appendix B: Additional Specifier SPSS Syntax

Additional Service to Consider	GAIN-I Code	Q4 Code
Medication for Alcohol Use Disorder (AUD)	COMPUTE MADq=((SUDS90D5g > 0) OR (S7d=4 AND S7e5=0)) AND (AUDLq=1).	COMPUTE MADq=((SUDS90D5g > 0) OR (SU1f=4 AND SU1f5=0)) AND (AUDLq=1).
Medication for Opioid Use Disorder (OUD)	Compute MODq=((SUDS90D5g>0) OR (S7d=4 AND S7e5=0)) AND (OUDLq=1).	Compute MODq=((SUDS90D5g>0) OR (SU1f=4 AND SU1f5=0)) AND (OUDLq=1).
Contingency Management for Stimulant Use Disorder (StUD)	Compute MgmtStimq=((SUDS90D5g>0) OR (S7d=4)) AND (StmUDLq=1).	Compute MgmtStimq=((SUDS90D5g>0) OR (SU1f=4)) AND (StmUDLq=1).
Pregnancy Post-Partum Women (PPW) program	Compute Pregnantq=(B1=2 and P5b1=5).	Compute Pregnantq=(B1=2 and B17 = 1).
Tobacco Cessation	Compute TobCsq=(R4a>12).	Compute TobCsq=(PH2c>12).
Motivational Interviewing	Compute LowMoq=(SUDS90D5g>0) AND (asamb4q=3 or asamb4q=4 or asamb4q=6 or asamb4q=7).	Compute LowMoq=(SUDS90D5g>0) AND (asamb4q=3 or asamb4q=4 or asamb4q=6 or asamb4q=7).
Relapse Prevention	Compute RelpsPrevq=(SUDS90D5g>0) AND (asamb5q=3 or asamb5q=4 or asamb5q=6 or asamb5q=7).	Compute RelpsPrevq=(SUDS90D5g>0) AND (asamb5q=3 or asamb5q=4 or asamb5q=6 or asamb5q=7).
Cognitive Impairment Program	Compute CIPq=((M5a9=1) OR (M5a14=1) OR (XADMc=3)).	Compute CIPq=((MH5a9=1) OR (MH5a14=1) OR (XADMc=3)).
Co-occurring Enhanced (COE)	Compute COEq=(SUDS90D5g>0) AND (asamb3q=3 or asamb3q=4 or asamb3q=6 or asamb3q=7).	Compute COEq=(SUDS90D5g>0) AND (asamb3q=3 or asamb3q=4 or asamb3q=6 or asamb3q=7).
Suicide Crisis Intervention	Compute SuicIntq=(M1c6=1).	Compute SuicIntq=(Mh1e=4).
Suicide Risk Assessment	Compute SuicAsq=(M1c2=1) AND (suicIntq ne 1).	Compute SuicAsq=(Mh1e=4).
Psychosis Services	Compute PsyServq=(M1d9>2).	Compute PsyServq=(Mh1f>2).
Victimization / Safety Planning	Compute Safetyq=(Max(E9a, E9b, E9c, E9d, E9f, E9j)>2) OR (E9u>0).	Compute Safetyq=(Max(RB1g, RB1h, RB1j, RB1k, RB1m1, RB1m2)>2) OR (RB2c>0) OR (SU11n>0).
Lifetime other high stress	Compute HStressLq=(E10_4>0 or E10_2>0 or E10_5>0 or E10_3>0 or E11_8>0 or E11_2>0 or V8e>0).	Compute HStressLq=(SS1a>0 or SS1b>0 or SS1c>0 or SS1d>0 or SS1e>0 or SS1f>0 or SS1g>0).
In-home Care	Compute AltHomeq=(Max(M3b11, M3a2, M3a3, M3a17, M3b1, M3b2, V9) >2) OR (M5a2=1) OR (M5a6=1) OR (M5a10=1).	Compute AltHomeq=(Max(MH2a, MH2b, MH2c, MH2d, MH2e, MH2f, OR (MH5a6=1) OR (MH5a10=1). MH2g) >2) OR (MH5a2=1).

Additional Service to Consider	GAIN-I Code	Q4 Code
Family Intervention	Compute FamIntq=(B2a<18) AND ((E3>0) OR (E15a2=1) OR (E5e>0) or (E10_99=1) or (V8k=1)).	Compute FamIntq=(B2a<18) AND ((SU11h>0) OR (Max(FE2a,FE2b,FE2c,FE2d,FE2e,FE2f,FE2g,FE2h,FE2j,FE2k)>1) OR (LS1h<3)).
Recovery/ Supportive Housing	Compute AltSupHousq=(Max (E2c, E1d, E2d, E2e) >0) OR (E1c=0).	Compute AltSupHousq=(Max (SU11c, SU11d, SU11e, SU11f) >0) OR (SU11p=0) OR (LS1k<3).
American Sign Language (ASL) Requirements	Compute ASLq=(P4_3=1).	Compute ASLq=(PH4_3=1).
Visual Impairment Requirements	Compute VisImpq=(P4_5=1).	Compute VisImpq=(PH4_5=1).
Mobility Requirements	Compute Mobilityq=((P4_7=1) OR (P4_8=1)).	Compute Mobilityq=((PH4_7=1) OR (PH4_8=1)).
Spanish Language Requirements	Compute Spanishq=(XADMb=2 or XADMb=3).	Compute Spanishq=(XADMb=2 or XADMb=3).
Other Language (verbatim) Requirements	Compute OtLangq=(XADMb=99).	Compute OtLangq=(XADMb=99).
Justice System Involved	Compute Justiceq=((L6>3) OR (L5c>0)).	Compute Justiceq=((CV1f>3) OR (CV4b>0)).
Community Re-entry After Being in Controlled Environment 90 or more days	Compute Maxceq=(SUM(P11g, M5g, S7e2, S2x, L6c1, L6c2)>89).	Compute Maxceq=(SUM(PH1f2, MH2h2, SU1f2, SU5, CV2c1, CV2c2)>89).
Support for Sustained Abstinence	Compute SustRemisq=((SUDSLD5g=2) AND (SUDSYD5g=0)).	Compute SustRemisq=((SUDSLD5g=2) AND (SUDSYD5g=0)).
Legally emancipated minor	Compute Emancipq=(B2b=5).	Compute Emancipq=(B2b=5).
Runaway minor	Compute Runawayq=(B2b=6).	Compute Runawayq=(B2b=6).
In foster care	Compute Fosterq=(B2b=7).	Compute Fosterq=(B2b=7).
In juvenile facility	Compute JuvInstiq=(B2b=8).	Compute JuvInstiq=(B2b=8).
Active Duty Military	Compute ActiveDq=(V4c=1).	Compute ActiveDq=(B16c=1).
Veteran	Compute Vetq=(V4=1 and V4c>2).	Compute Vetq=(B16 = 1 and B16c_2 = 1).
Sexual or gender minority	See GLBTQ55	Compute GLBTQq=(B1=6 or B1=99 or B1a>2 or B14 ne 2).
Other Cultural Considerations	N/A	N/A