

Introduction to Lyssn's Clinical Quality Metrics

Lyssn uses AI algorithms to automatically generate clinical quality metrics from a recording (or transcript) of a provider-patient session or appointment. Metrics range from general counseling and patient-centered communication to fidelity to evidence-based counseling, including Motivational Interviewing and Cognitive Behavioral Therapy.



This document describes Lyssn's metrics and when applicable provides guidance on clinical benchmarks. For each metric, the metric name is in **bold**, the (scale range) in parentheses, and the dataset [variable name] in brackets. These variable names are how each metric is defined in the data download feature. When applicable, clinical benchmarks are in *italics*.

Example: **Empathy** (rated on a scale of 1-5) and variable name is [sessionempathy]

General Session Data

Talk Time [percenttherapisttalktime] - the percentage of counselor versus client talk time during the session

Motivational Interviewing (MI)

Metrics below were derived or adapted from the [Motivational Interview Skills Code](#) (MISC; versions 2.1 and 2.5) and the [Motivational Integrity Treatment Manual](#) (MITI; version 4.2.1).

MI Proficiency Score (range 0-12)[miproficiencyscore] - a total score summarizing MI proficiency across 6 MI fidelity metrics: empathy, collaboration, % reflections, % questions, % MI adherent, and ratio of reflections to questions (all individually defined below). Each of the 6 metrics is scored 0, 1, or 2 on whether the score met criteria for basic or advanced competency, using cutoffs from the MITI v3.1.1 manual (p. 27). MI Proficiency is a single value summarizing the quality of MI delivered, where higher scores indicate better MI performance.

Empathy (range 1-5)[sessionempathy] - how well the provider demonstrates understanding of the client's thoughts, feelings, and behaviors

- High empathy is evident when the counselor shows an active interest in understanding what the client is saying.
- Low empathy is characterized by counselor indifference or active dismissal of the client's perspective and experiences.

Empathy High Points [highpoints_empathy] - Lyssn also provides localized instances of empathic statements in the transcript view. These empathy “high points” represent exemplary instances of the therapist demonstrating understanding to their clients.

Collaboration (range 1-5)[sessionspirit] - how skillfully the counselor fosters power-sharing that allows client’s ideas to influence the direction of the session

- High collaboration is evident when the counselor works cooperatively with the client toward the goals of the interview. The counselor does not rely on dominance, expertise or authority to achieve progress.
- Low collaboration is characterized by a lack of counselor/client mutual understanding during the session. The counselor actively assumes the expert role for the majority of the interaction with the client.

Clinical Benchmark: For Empathy and Collaboration a rating of “3.5” is considered Basic and a “4” is considered Advanced.

MI Counselor Behaviors

Counselor behaviors are listed below. Certain behaviors are indicative of high-quality MI whereas others should be avoided. See below for these MI adherent and MI non-adherent counselor behaviors.

Advise [advise] - the counselor gives advice, makes a suggestion, or points out a possible problem or warning with client’s intentions

Affirm [affirm] - the counselor says something positive, compliments the client, or reinforces clients’ strengths or efforts

Confront [nconfront] - the counselor directly disagrees, argues, corrects, shames, blames, seeks to persuade, criticizes, judges, labels, moralizes, ridicules, or questions the client's honesty

Emphasize Control [emphasize_control] - the counselor acknowledges, honors, or emphasizes the client's freedom of choice, autonomy, personal responsibility

Facilitate [facilitate] - simple utterances that function as keep-going acknowledgments

Giving Information [giving information] - the counselor explains something, educates, provides feedback, or discloses personal information

No Code [no_code] - not codeable behaviors such as poor audio or laughter

Question Open [question_open] - a question that allows a wide range of possible responses and can invite client's perspective or self-exploration

Question Closed [question_closed] - a question that implies a short answer (yes, no, specific factor or number)

Reflection Complex [reflection_complex] - the counselor demonstrates significant understanding of what the client stated, typically above and beyond what the client stated

Reflection Simple [reflection_simple] - the counselor adds little or no meaning or emphasis on what the client has said, merely convey basic understanding

Structure [structure] - the counselor describes what's going to happen directly to the client in this or subsequent sessions

Note: There are no specific ranges or expected counts for each of the above behaviors but rather a high quality MI session would have higher counts of MI adherent behaviors versus MI nonadherent behaviors (defined below).

% MI-adherent and nonadherent behaviors are calculated taking the total number of each behavior divided by all behaviors in the session.

MI-adherent behaviors [percentmiadherent]
affirm, emphasize control, open questions, reflections (simple & complex)

MI-nonadherent behaviors [perminonadherent]
advice, confront

Note: There are no suggested benchmarks for % adherence or nonadherent. We currently recommend MI nonadherent remain below 5%.

Giving information and closed questions are not included in either MI-adherent or MI-nonadherent. In a high-quality MI session, we would expect fewer giving information statements and fewer closed questions. Yet, on their own these do not constitute MI-nonadherent behaviors.

MI summary metrics are common ways of assessing MI adherence by summarizing question and reflection behaviors. For all summary metrics, higher scores equal better performance.

% Open questions [percentopenquestions]- the percentage of open questions versus closed questions

Clinical benchmark: 40% for Basic and 50% for Advanced

% Complex reflections [percentcomplexreflections] - the percentage of complex reflections versus simple reflections

Clinical benchmark: 40% for Basic and 50% for Advanced

Reflection to question ratio [reflectiontoquestionratio] - the number of reflections divided by the number of questions

Clinical benchmark: 1.0 for Basic and 2.0 for Advanced

Cognitive Behavioral Therapy (CBT)

Lyssn's CBT fidelity ratings come from the Cognitive Therapy Rating Scale (CTRS). CTRS ratings are rated once for a session on a 0-6 scale.

0	1	2	3	4	5	6
Poor	Barely Adequate	Mediocre	Satisfactory	Good	Very Good	Excellent

CBT Total Score [cbt-competency] - Summed total score of the below behaviors

Clinical benchmark: a total score of 40+ demonstrates competence.

Agenda [cbt-agenda] - How well does the counselor structure and set the session agenda with the client

Feedback [cbt-feedback] - How well does the counselor elicit feedback from to assess client understanding

Understanding [cbt-understanding] - How well does the counselor use listening skills and empathy to understand the client's viewpoint

Interpersonal Effectiveness [cbt-interpersonal] - How well does the counselor show warmth, concern, confidence, genuineness, and professionalism

Collaboration [cbt-collaboration] - How well does the counselor engage with and encourage the client to take an active role in the session

Pacing and Efficient Use of Time [cbt-pacingandtime] - How efficient is the counselor in timing and staying focused on treatment relevant topics

Guided Discovery [cbt-guidediscovery] - How well does the counselor assist client in exploring problems and developing new perspectives from the client's point of view

Focusing on Key Cognitions or Behaviors [cbt-keycognitionbehavior] - How well does the counselor focus on key thoughts, assumptions, and behaviors that are relevant to the client's target problem

Strategy for Change [cbt-strategyforchange] - How appropriate and coherent strategies are incorporated CBT techniques

Application of Cognitive-Behavioral Techniques [cbt-applicationoftechnique] - How skillful is the application of specific CBT techniques

Homework [cbt-homework] - How skillfully does the counselor review previous homework and discuss upcoming homework assignment

Note: A score of "4" is a benchmark for basic clinical proficiency in each CBT skill.