

**THE ROTER INTERACTION ANALYSIS SYSTEM (RIAS)
CODING MANUAL**

(SIMPLIFIED VERSION, 2013)

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We encourage medical educators and researchers to use the RIAS, but note that permission is contingent on training to assure that users reach acceptable levels of coding validity and reliability. Information about training schedules and individual arrangements can be found at <http://www.riasworks.com> or contact us at riasworks@comcast.net.

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Background

The RIAS was first devised as a tool for evaluating the communication effects of a patient activation intervention designed to empower chronic disease patients to ask questions during routine medical visits, viewing the dynamics of resource exchange between patients and providers through the medical dialogue.¹ The RIAS is derived loosely from social exchange theories related to interpersonal influence, problem solving, and reciprocity.²⁻⁶ The social exchange orientation is consistent with health education and empowerment perspectives that view the medical encounter as a “meeting between experts” through which dialogue shapes the therapeutic relationship and reflects patient and provider roles and obligations.⁷⁻¹³ Conceptually, communication categories can be broadly viewed as reflecting socioemotional and task-focused elements of medical exchange.¹³ Physicians' task-focused behaviors are defined as technically based skills used in problem solving that comprise the base of the “expertness” acquired through professional medical education and for which a physician is consulted. From a communication perspective, physicians’ task behaviors include those related to performance of medical functions, such as data gathering, tests and procedures, the physical exam, and patient education and counseling. The affective dimension of physician behavior includes those exchanges with explicit socioemotional content related to the building of social and emotional rapport, for instance, the use of social amenities, empathy, concern, or reassurance. These are not generally regarded as behaviors that have been acquired in medical school.

In many ways, patients’ communication may be viewed in a parallel fashion. In this regard, Engle’s insight into the dual nature of patient motivation for seeking a doctor’s care is illuminating; the “the need to know and understand” can be viewed in task-focused terms, while the “need to feel known and understood” may be better understood in socioemotional terms.¹⁴ Task-focused communication is reflected largely in patient question asking and information giving, while the socioemotional domain includes the expression of concern, optimism, empathy, laughter and joking, and social chit-chat.

Within this theoretical grounding, the RIAS provides a framework of mutually exclusive and exhaustive categories whereby the contributions of both patients and providers to the medical dialogue may be richly elaborated and finely detailed. Moreover, the RIAS shows advantages over other systems in four ways: it is practical, functional, flexible, and methodologically sound with an established record of good reliability and demonstrated predictive validity to a variety of patient and provider outcomes and discriminatory sensitivity to varying medical contexts. These are elaborated below.

PRACTICALITY

The practical advantages of the RIAS are twofold. First, coders work directly from the spoken record, usually an audio or videotape. Elimination of the very resource-intensive effort necessary for accurate and full transcription provides a practical and obvious advantage of the RIAS over every other system of interaction analysis based on a written record. Transcription conventions designed to capture linguistic properties of speech, for instance those suggested by Jefferson, are estimated to take many hours of painstaking preparation for each hour of recorded conversation.¹⁵ Not only does RIAS avoid the burden of transcript preparation but it can be argued, in fact benefits from its absence as the coding conventions at the heart of the system are based on voice tone and phrasing cues that are taken directly from the audio record.

RIAS coding is time efficient, both in terms of system mastery and in its application. The system is intuitive and easily learned and coding rules and operational definitions can be mastered by non-linguists in a relatively short period of extensive training, usually less than a week. High levels of reliability and reasonable coding speed can be achieved with 60-80 hours of practice. A well trained RIAS coder can complete basic coding of a recording in three to four times the duration of a session making it feasible to conduct research that necessitates the coding of large numbers of interactions.

FUNCTIONALITY

A useful framework for organizing and interpreting RIAS-coded communication in the clinical encounter is a variant of the widely used "Three Function Model" of medical interviewing as described by Lazare and colleagues¹⁶(1995) and Cohen-Cole.¹⁷ While the functional model of medical interviewing is useful, application of the RIAS is not limited to medicine; it has been broadly applied to, for example, exchanges in nursing, dentistry, podiatry, genetic counseling, and veterinarian practice.

Task-focused communication, such as question-asking and information giving and counseling, facilitate performance of two medical interview functions: "Gathering Data" to understand the patient's problems and "Educating and Counseling" to provide information to patients about their illness and motivate them to adhere to treatment. Affective behaviors generally reflect the third medical interview function of "Building a Relationship" through the development of rapport and responsiveness to the patient's emotions. A fourth function of the visit, "Activating and Partnership Building" may be added to note the verbal strategies that help patients integrate, synthesize, and translate between the biomedical and psychosocial paradigms of the therapeutic dialogue. Activation strategies (e.g. asking for the patient opinion, asking for understanding, paraphrase and interpretation) facilitate the expression of patients' expectations, preferences, and perspectives so that they may more meaningfully participate in treatment and management decision-making.^{10,11}

FLEXIBILITY AND ADAPTABILITY

The RIAS is highly adaptable and can be tailored to capture unique contextual dimensions associated with the nature of the medical situation and circumstance studied. Adaptation is evident in its use in oncology,¹⁸⁻²⁴ obstetrics and gynecology,²⁵⁻²⁶ end of life discussion,²⁷ well-baby care,²⁸ and in studies of delivery of routine care to patients with a particular diagnosis, such as asthma,²⁹ hypertension,³⁰ or diabetes.^{31,32}

The system's flexibility is reflected in several ways: (a) coding the talk of multiple speakers; (b) the use of targeted sub-categories within the basic RIAS system to document functionally specific kinds of exchange (i.e. anticipatory guidance in pediatric visits or therapeutically-linked lifestyle counseling for such medical conditions as asthma or diabetes); and (c) the elaboration of content-specific topics of interest through structured coder notes and content summaries embedded in the coding record, as described below.

Coding Multiple Speakers. Although most medical exchange is dyadic (patient and provider), it is common for additional participants to contribute to the medical conversation. In these instances, it is often desirable to capture verbally active third parties. The third party may represent a patient proxy who largely speaks for the patient (for instance the parent of a young child or a caregiver for a patient with significant cognitive deficit) or the third party may contribute to the conversation in a minor way providing support to the patient. A third party may also be a second health provider (e.g. a consultant, supervisor or nurse) called to the exam room to assist the physician.

The RIAS accommodates the coding of multiple speakers in a variety of ways. A toggle key links codes to speakers with the capability of identifying a patient proxy or companion (as distinct from the patient) and a second health provider. Three way coding has been used in pediatric exchange to distinguish parent from child contributions to the medical dialogue^{28,29} in geriatric exchange distinguishing elderly patients from caregivers³² and in an analysis of a second physician's contribution to the patient-physician dialogue when called in for a consultation.³³ Ongoing studies are investigating the role of supportive companions during the enrollment of patients in clinical trials and the role of a caregiver acting as proxy for a patient with compromised mental capacity.

Targeted sub-categories. The use of targeted sub-categories within the basic RIAS system allows for the documentation of functionally specific exchange linked to the nature of the visit. For instance, routine pediatric visits often include a great deal of "anticipatory guidance" talk (i.e., questions, information or counseling relating to normal growth and development issues). It is often of interest to separate this type of talk from other areas of information-giving, counseling and data gathering. Therefore, sub-categories were established (for open and closed questions, information-giving, and counseling) for talk in either of two anticipatory guidance areas--developmental or social. The developmental sub-category includes talk relating to routine and problematic issues in the areas of language, cognitive, motor, and self-help development. The social sub-category includes talk relating to routine and problematic issues in the areas of social development, including parenting, peer relations, and adolescent issues.²⁸

In a study involving emergency room visits for children presenting with acute asthma attacks, RIAS coding adaptations accommodated a sub-category of questions, information-giving and counseling that relates to the aspect of asthma management that includes talk about lifestyle that is directly linked to the medical condition and/or therapeutic regimen (e.g., talk of smoking, allergens, pets, pollutants, humidifiers, or diet) as opposed to non-clinically linked lifestyle talk.²⁹

Elaboration of content-specific performance. Content-specific exchange related to provider performance can be monitored through structured coder notes and content summaries embedded in the coding record. This approach extends the coding system's ability to note the discussion of substantive content, as well as to serve as a vehicle for monitoring the adequacy of provider performance in targeted areas. For example, specific information given to the patient regarding his or her therapeutic regimen may be of interest, and the coding record would include a summary of this specific information (i.e., drug name, description, purpose, dose and schedule). Other topics of interest have included the presence or absence of a particular kind of prevention counseling (e.g., diet, smoking, exercise or stress counseling), or whether or not this counseling met criteria for consideration as a brief mention, short discussion, or in-depth counseling. Since this notation is brief, a well-defined area of interest may be reliably abstracted (and marked by digital location stamp) without the laborious process of transcript preparation. In other cases, elaboration may include qualitative assessments of dialogue, including verbatim excerpts of dialogue that are transcribed for later analysis.

Some studies require coding of audio recordings to ascertain the degree of clinical proficiency demonstrated by the study's physicians. In order to measure proficiency, we have generated checklists based on gold-standard criteria set by experts in the field or a review of the literature. For these studies, coders indicate that specific items are asked or that specific criteria are met during the visit (as evidenced by the tape recording). Once familiar with the items on the proficiency checklist, the coder completes it simultaneously with RIAS coding, assuming the list is not overly complex. For example, proficiency checklists were used in the assessment of physician performance in emergency room

treatment of pediatric asthma³⁴, in discussions of advance directives²⁷, and in assessment of depression screening.³⁵

Further evidence of RIAS sensitivity to varying medical contexts is reflected in its utility in capturing the special character of cancer communication. Using RIAS in a series of studies, Ong and colleagues explored the communication dynamics of Dutch primary care physicians and oncologists with their patients and its effects.¹⁸⁻²⁰ The RIAS identified significant differences in several domains: oncologists were more verbally dominant, more informative, more attentive, and more expressive of concern to patients than were general practitioners. The study also found that the oncologists were less likely to engage in social exchanges or in persuasive counseling with their patients than the generalists. Inasmuch as these differences were anticipated, considering the serious nature of oncology visits, the findings are interpreted as a validation of the RIAS's discriminatory power and sensitivity to medical context.

METHODOLOGICALLY RIGOROUS

RIAS coding is characterized by high reliability and consistency when performed by trained coders. Coding reliability (assessed through Pearson correlations of random coder dyads in blind double coding) generally averages between 0.80- 1.0 for both patient and physician non-rare categories (frequencies greater than two occurrences per session). These levels of reliability are especially noteworthy as the system has been translated from English to over 15 languages with consistent success.

Visit <http://www.riasworks.com> for an **annotated bibliography** of more than 250 RIAS studies organized by country and area of medical specialty.

The RIAS has generated an evidence base supported by a number of predictive validity studies. The resource-conservative nature of RIAS make it logistically possible to conduct research that accommodates the power estimates and demands for substantial sample sizes of both patients and providers for intervention and evaluative studies. RIAS studies have demonstrated high levels of predictive and concurrent validity. Studies have related aspects of communication to physicians' malpractice experience, physician satisfaction, patient satisfaction, patient recall, and improvement in levels of emotional distress.³⁸⁻⁴⁷ RIAS has also been used to evaluate several types of communication training programs, including those directed toward physicians in training⁴⁸⁻⁴⁹ and continuing medical education.^{47, 50}

Introduction to the RIAS Method

The core system consists of 41 distinct codes (34 categories overlap across patients and providers; 6 codes apply to only the provider and 1 is a patient only code). Adaptations of the core system have added a handful of codes specific to applications in several areas, including genetic counseling, veterinarian medicine, dentistry, and pediatrics. The unit of analysis is a complete thought defined as the smallest discrete statement to which a code classification may be assigned. A thought unit may vary in length from a single word to a lengthy sentence. A sentence may be considered a single coded unit if it conveys only one thought or relates one idea. Compound sentences are often divided at the conjunction and coded as two separate thoughts.

Codes are mutually **exclusive** and **exhaustive**.

- Every expressed thought is assigned to one—and only one—RIAS category.
- Every expressed thought, by every speaker, is coded.

Summary of RIAS Coding Rules

1. While coding rules and category definitions are provided, an interpretive function must also be considered for proper coding. This is especially evident in terms of how things are said. Voice tone and intonation are used to help the coder determine the appropriate category.

For example: The voice emphasis on “hope” in “I hope this is all we’ll have to do” results in the interpretation of the statement as one of concern or worry. In contrast, the same statement with all words equally stressed and lighter delivery might be heard as reassuring and therefore would be coded as a statement of reassurance/optimism.

2. If a decision must be made between categorizing an statement into a functional or affective category, affect should be given preference. The reason given is that explicit content is likely to direct to the task-neutral domain, whereas our intuition responds to implicit affective messages that point to the affect domain. If a question of the appropriate code arises, intuition should direct the coding, and the rule of thumb is to code up from a neutral to an affective code.

For example: “I’m terribly mean to you stealing all of this blood” could be coded as a neutral statement of information, or a statement of concern or worry, or as a joke. Because of the doubt, the first of these categories would be eliminated

3. Further help in deciding categories may be gained from the manner in which the receiver interprets the statement. In the example above, if the patient laughs in response to the statement, it would be coded as a joke; if the patient responds as if accepting an apology or statement of concern, it would be coded accordingly.
4. Use caution in automatically assigning key words to specific categories. Some words have different functions and meanings depending on the context in which they are used and the intent they imply.

For example: “OK” may be used in the following ways:

- *Signifying agreement or understanding*
- *Asking for understanding*
- *Indicating a transition to another topic*
- *Back-channel/facilitative response*

Additional Features of RIAS Method

- Global affect ratings (Likert scales), for all speakers, are assigned at the conclusion of coding to reflect both verbal and non-verbal affective/tonal dimensions of the encounter.
- Segments of the visit (e.g., Opening, History, Exam, Counseling, Closing) are marked, during RIAS coding, for further analysis.
- Study-specific “blocks” of talk may be designated and marked (e.g., advance directive talk, specific pediatric topics, depression screen questions), for further analysis.
- Proficiency tags or specific content indicators (e.g., motivational interviewing skills, elements of informed consent) may be marked during coding.
- Elaborations on topics of interest may be noted during RIAS coding, as well as select verbatim transcription.

Summary of RIAS Method

- **Quantitative method** for measuring individual categories of talk—by speaker, summary composites, ratios, patient-centeredness scores
- **Qualitative components allow for tagging, indexing and selected transcription**
- **Reasonable depth, breadth—yet practical, flexible, functionally specific.** The RIAS method provides for a detailed, highly reliable window into actual performance, in a relatively resource conservative manner, as well as predictive validity to a variety of outcomes including patient satisfaction, compliance, and indicators of illness management.

Personal Remarks, Social Conversation

Greetings and goodbyes

Conversation on weather, sports or any non-medical or social topic not related to health

"Hello, I'm Dr. Smith."

"Nice day we're having."

Laughs, Tells Jokes

Friendly jokes, trying to amuse or entertain

Laughter and nervous laughter

Shows Concern or Worry

A statement or non-verbal expression that indicates that a condition or event is serious, worrisome, distressing or deserving special attention and is of particular concern right now during the encounter. Voice tone, intonation or verbal content may disclose that worries, concerns, events or uncertainties are of immediate concern.

"I just want to know what's going on."

Includes statements that ask for pardon and indicate concern for the other.

"Sorry, but I'm afraid this may hurt."

Reassures, Encourages or Shows Optimism

A statement that indicates optimism, encouragement, relief of worry or reassurance, including descriptions and prognostic statements related to physical or emotional consequences. Includes statements that show an awareness of the other's feelings in a positive upbeat way, or respond to a request for reassurance.

"I wouldn't worry about that."

"This looks much better."

Shows Approval-Direct

Compliments directed to the other person present

Showing the other gratitude or appreciation

Any expression of approval, praising, rewarding or showing respect or admiration directed to the other.

"You've been very helpful today."

Gives Compliment - General

Compliments directed to another person not involved in the exchange showing gratitude or appreciation.

Any expression of approval, praise, or showing respect or admiration directed to others not involved in the exchange.

"They're very efficient over at that lab."

Shows Disagreement/Disapproval - Direct

Any indication of disapproval, criticism, complaint, rejection, coolness or disbelief directed to the other person present. Statements that contradict or refute something said by the other, or imply disagreement with or rejection of the other's hypotheses, ideas or opinions:

"No, I don't think so."

"I don't believe in those flu shots."

Shows Criticism - General

Any indication of disapproval, complaint, rejection, coolness, or disbelief directed toward another not involved in the exchange.

"My husband can't cook worth beans."

"She's never there when I need her."

Empathy Statements

Statements that paraphrase, interpret, name or recognize the emotional state of the other person present during the visit.

"This is distressing for you."

"You seem very upset."

Legitimizing Statements

Statements that indicate that the other's emotional situation, actions, or thoughts are understandable and normal:

"I understand why you're worried."

"I can see why you're having trouble sleeping."

Partnership Statements (Provider category)

Statements that convey the physician's alliance with the patient in terms of help and support, decision-making, or the development of the therapeutic plan.

"Let's figure out when would be the best time to get together again."

"I'd like us to work together to figure out the most reasonable plan for you."

Self-Disclosure (Provider category)

Statements that describe the provider's personal experiences in areas that have medical and/or emotional relevance for the patient. Self-disclosure is the revealing of a non-public personal component.

"My wife was also diagnosed with breast cancer a few years ago."

Asks for Reassurance

Questions of concern that convey the need or desire to be reassured or encouraged. Voice tone, intonation and emotional content may help distinguish questions that ask for reassurance from other questions.

"Do you really think that I can stop smoking?"

"Those tests don't hurt too much, do they?"
"Do you think that I'm getting better?"

Shows Agreement or Understanding

Signs of agreement or understanding

"I see."
"Yes, that's right."

Includes conceding a point and social amenities

"Excuse me."

Back-Channel Responses

Indicators of sustained interest, attentive listening or encouragement when the listener does not hold or take the speaking floor

"Ah-hmm."
"Go on."

Transition Words

Sentence fragments that indicate movement to another topic or area of discussion, train of thought or action. Includes statements or fragments that are place-holders, if the utterance stands alone and is separated from other utterances by a pause of one second or more:

"Ah...wait a minute now..."
"Let me see..."

Gives Orientation, Instructions

Orientation statements tell the other person what is about to happen, what is expected during the encounter, or serve to orient the other to the major topics of discussion or the physical flow of the visit. The purpose of these statements is to guide the other person (usually the patient) in terms of what to expect now, during the visit, and thereby facilitate the process of the visit. Instruction statements include directives relating to the exam or clinic visit.

"Now I'm going to take your blood pressure."

"I'll be right back with the shot."
"Open your mouth, please."

Paraphrase/Checks for understanding, accuracy, confirmation, clarification

Mechanisms by which the speaker re-states information to check for accuracy or to confirm a shared understanding of the facts being discussed (i.e., in essence asking, "Do I understand what you are saying?" "Do I have it right?" or "Am I on the right track?").

Pt. "It has a high deductible." (Gives-L/S)
Dr. "It does? (Check)
Pt. "It is very high." (Gives-L/S)

Includes paraphrases or repetitions of the other's communication in either declarative or interrogative form:

Pt. "I have a pain in my chest." (Gives-Med)
Dr. "So you have a pain in your chest."

Includes statements made during chart review that are a clear review of common knowledge. Also includes re-statements of information when there is a clear reference to the earlier statement:

Dr. "I see from the chart that your father died of a heart attack." (Check)
Dr. "You told me earlier that you've been having trouble sleeping." (Check)

Asks for Understanding

Mechanism by which the speaker checks with the other to see if information that was just said has been followed or understood (i.e., in essence asking, "Do you understand what I'm saying?").

"Do you follow?"
"Are you with me?"

Bid for Repetition

Request for repetition of the other's previous statement. Bids are used when words or statements have not been clearly heard, and therefore need repetition, and are often signs of perceptual difficulties.

"What did you say?"
"Say it again, please."

Asks for Opinion (Provider category)

Questions that ask for the patient's opinion, point of view or perspective. Includes questions that invite the patient's judgment, or ask for the patient's preferences, expectations, or survey of the problem.

"What do you think it is?"

"What do you think could have caused this?"

Includes broad probes for presenting problems or for questions:

"What's been going on?"

"What brings you in today?"

"Any other questions?"

Asking for permission (Physician category)

Questions that ask for the patient's permission to proceed.

"May I listen to your chest?"

"Are you ready?"

"May I proceed?"

Asks Questions (Closed-ended)

Direct questions that ask for specific information, i.e., where short responses are generally the only response options. An answer of one or two words or a "yes" or "no" is usually sufficient.

1. Medical condition: Includes questions about medical and family histories, previous treatments, symptoms, physical condition, medical practices, and allergies (except allergies to drugs):

"Have you been having trouble sleeping at night since these chest pains started?"
"When was your last blood work done?"
2. Therapeutic regimen: Includes questions relating to past, ongoing and future drug regimens, ongoing or future treatment practices, and lifestyle controls that have been explicitly linked to the patient's medical condition. (NOTE: If this link to a health condition is NOT explicit, default to Lifestyle category.)

"How often do you take your blood pressure medicine?"
"How often should I take these pills?"
3. Lifestyle: Includes questions relating to lifestyle (smoking, diet, sleep, alcohol and exercise habits), family and home, work or employment, prevention and self-care issues. (NOTE: When lifestyle controls are explicitly linked to the patient's medical condition by the physician, then code as Therapeutic regimen; if explicit link is not clear, default to Lifestyle.) Also includes questions about health insurance coverage and other cost issues:

"Who's living at home with you now?"
"Do you always work the night shift?"
4. Psychosocial and Feelings: Questions pertaining to the psychological or emotional state. Includes questions relating to emotions, worries, concerns or such feelings as stress or personal likes or dislikes.

"Are you anxious about this?"
"Have you been crying?"
"Is stress causing my chest pain?"
5. Other: Includes questions related to such things as clinic paperwork, exam or study procedures:

"Where is the person I'm supposed to talk to for the study?"
"Should I sit here?"

Asks Questions (Open-ended)

Open-ended questions are often distinguished from closed-ended questions by their non-specificity and/or probing intent. They often begin with "what, why, could or how" and request an answer of perception, information, or feelings. Questions that include "any" are coded as open questions.

Sub-category content is the same as described above for Asks questions (Closed-ended):

1. Medical condition:

"How is your appetite?"
"Any headaches?"

2. Therapeutic regimen:

"How are you doing with the pain medication?"
"What problems are you having remembering to take your pills?"

3. Lifestyle:

"How are you doing on your diet?"
"Why did you start smoking again?"

4. Psychosocial and Feelings:

"How are you handling your husband's alcohol problem?"
"Why don't you like your job?"

5. Other:

"What should do I with this?"
"How do I put this on?"

Gives Information

Statements that do not explicitly direct the other's behavior. These statements are characterized by content presented in a neutral manner and/or information regarding actions to be initiated by the speaker or others (e.g., clinic or hospital personnel).

1. Medical condition: Statements relating to the medical condition, symptoms, diagnosis, prognosis, past tests and test results, past treatments and hospitalizations, personal and family medical histories, past practices and allergies. Includes basic identifying information or vital statistics (e.g., spelling of full name) as part of the medical record.

"I did have a chest x-ray about 3 months ago."

"My grandfather died of heart disease."
"Your blood pressure is 100 over 70."
"I used to get cortisone shots in the knee."

2. Therapeutic regimen: Statements about the ongoing or future treatment plan, such as information about medications used or drug regimen, treatments or tests to be performed, imminent hospitalizations, future medical appointments, or specific lifestyle controls explicitly linked to the medical condition. In addition, this category includes information about drugs or medications taken or prescribed in the past.

"This medication is a diuretic which will help your condition."
"I'm going to order blood work for next week."

3. Lifestyle: Statements about lifestyle (smoking, diet, sleep, alcohol and exercise habits), family and home situations, work or employment, health habits and self-care issues. Includes information regarding daily routine as it relates to the general medical condition and health regimen, and information about medical coverage and costs.

"I've been working out in the yard most days."
"I'm not smoking nearly as much as I used to."

4. Psychosocial: Includes statements about psychosocial concerns (e.g., stress, feelings, emotions, philosophical outlook, values and beliefs). May refer to lifestyle, medical and/or therapeutic information, but are distinguished from the other Gives Information categories by their psychosocial or affective dimension.

"Every marriage has its ups and downs."

Statements about the use of psychoactive drugs is coded here when the discussion relates to the effects of these drugs. (If psychoactive drug talk is strictly about dosage or schedule, code Gives Information-Therapeutic.)

5. Other: Miscellaneous statements and any neutral statements about the study itself (affective statements are coded appropriately).

"Today's date is the 14th." (to patient who is signing form)
"They told me this visit would be recorded."

Counsels or Directs Behavior (Physician category)

Statements that suggest or imply some resolution or action to be taken by the patient. These statements are characterized by the intent to persuade, influence, direct or change the other's behavior.

1. Medical condition/Therapeutic regimen: Includes statements about the medical plan, drug regimen, future appointments and tests. Statements about lifestyle changes or controls (e.g., to stop smoking, change diet, follow an exercise regimen) are included in this sub-category only if specifically related to the medical condition:

"I'd like you to take this medicine to help reduce your fluid retention."

2. Lifestyle and Psychosocial: Includes statements relating to lifestyle, family, activities of daily living, work and employment, general health promotion and prevention, and psychosocial issues, including emotional problems and concerns. These statements suggest actions or changes in behavior that involve the patient's volition or control of habits.

"You really need to get out and meet more people. Get involved in some volunteer activity that you'd enjoy." (2 utterances)

Requests for Services or Medication (Patient category)

Patient-initiated requests for services, credentialing, test, prescription or referral. This is a direct appeal to the physician's authority.

"Can you recommend a dermatologist?"

"Can we check my cholesterol as well?"

"Would you mind signing this for work?"

"I need a referral."

"Can you give me another prescription for the heart pills?"

Global Affect Ratings

In addition to utterance by utterance categorization, coders are asked to rate the affect of the dialogue (i.e., the emotional context). We do not ask coders to directly link these ratings to particular events or utterances, but to assign ratings based on their overall affective impressions of the speakers. Our own research has indicated that global affect ratings are more directly related to vocal qualities than they are to the literal content of the dialogue.

Ratings are assigned for both the physician and patient (except where indicated) for the following dimensions.

For the first four ratings, a "1" is assigned when there are NO signs of the affect.

(LO) 1 2 3 4 5 6 (HIGH)

Irritation/Anger

Anxiety/Nervousness

Depression/Sadness (patient rating only)

Emotional Distress/Upset (patient rating only)

For the remaining eight dimensions, a rating of "3" or "4" is considered "average" affect. This allows the coder to assign lower or higher ratings to reflect levels of lower or higher than average affect. For example, a "1" might be assigned when a speaker is markedly non-assertive; a "6" when the speaker is especially dominant.

(LO) 1 2 3 4 5 6 (HIGH)

Dominance/Assertiveness

Interest/Attentiveness

Friendliness/Warmth

Responsiveness/Engagement

Sympathetic/Empathetic

Respectfulness

Hurried/Rushed

Interactive/Fully Involved

Abbreviations for RIAS Categories

1. Personal	Personal remarks, social conversation
2. Laughs	Laughs, tells jokes
3. Concern	Shows concern or worry
4. R/O	Reassures, encourages or shows optimism
5. Approve	Shows approval - direct
6. Comp	Gives compliment - general
7. Disapprove	Shows disapproval - direct
8. Crit	Shows criticism - general
9. Agree	Shows agreement or understanding
10. BC	Back-channel responses
11. Empathy	Empathy statements
12. Legit	Legitimizing statements
13. Partner	Partnership statements (Physician only)
14. SDIs	Self-disclosure statements (Physician only)
15. ?Reassure	Asks for reassurance
16. Trans	Transition words
17. Orient	Gives orientation, instructions
18. Check	Paraphrase/Checks for understanding
19. ?Understand	Asks for understanding
20. ?Bid	Bid for repetition
21. ?Opinion	Asks for opinion (Physician only)
22. ?Permission	Asks for permission (Physician only)
23. [?]Med	Asks closed-ended questions-Medical condition
24. [?]Thera	Asks closed-ended questions-Therapeutic regimen
25. [?]L/S	Asks closed-ended questions-Lifestyle
26. [?]P/S	Asks closed-ended questions-Psychosocial
27. [?]Other	Asks closed-ended questions-Other
28. ?Med	Asks open-ended questions-Medical condition
29. ?Thera	Asks open-ended questions-Therapeutic regimen
30. ?L/S	Asks open-ended questions-Lifestyle
31. ?P/S	Asks open-ended questions- Psychosocial
32. ?Other	Asks open-ended questions-Other
33. Gives-Med	Gives information-Medical condition
34. Gives-Thera	Gives information-Therapeutic regimen
35. Gives-L/S	Gives information-Lifestyle
36. Gives-P/S	Gives information- Psychosocial
37. Gives-Other	Gives information-Other
38. C-Med/Thera	Counsels-Medical condition/Therapeutic regimen (Physician only)
39. C-L/S-P/S	Counsels-Lifestyle/Psychosocial (Physician only)
40. ?Service	Requests for services (Patient only)
41. Unintell	Unintelligible utterances

Mrs. Johnson's Medical Visit

Dr. (walking into room) Hello, Mrs. Johnson. (Personal)

Pt: Hi, doctor. (Personal)

Dr: Let me take a look at your chart. (Orient)/ So, last time you were here, we decided to start you on the Fosomax, (Checks)/ because of the results of your bone density test, right? (Check)

Pt: That's correct. (Agree)

Dr: And did you start the Fosomax? (Closed Thera)

Pt: Yes, I did. (Gives-Thera)/ I started it two weeks ago. (Gives-Thera)

Dr: So you've had three doses. (Checks)

Pt: No, just two. (Disagree)

Dr: Oh, I'm sorry—my mistake. (Concern) / Any trouble with side effects? (Open Thera)

Pt: No, none. (Gives-Thera)

Dr: That's great. (R/O) / Some women have difficulty with heartburn when they take Fosomax. (Gives-Thera)

Pt: That hasn't happened to me. (Gives-Thera)

Dr: Uh-hmm. (BC)

Pt: I take it first thing when I get up on Monday morning. (Gives-Thera)

Dr: Okay. (BC)

Pt: And then I go to work. (Gives-L/S)

Dr: Okay. (Agree) / Do you take it on an empty stomach with a full glass of water? (Closed Thera)

Pt: Yes, I do. (Gives-Thera) / And when I get to work, I eat my breakfast at my desk. (Gives-L/S)

Dr: Does it take you at least 30 minutes to get to work? (Closed LS)

Pt: Oh, yes. (Gives-L/S) / More like an hour. (Gives-L/S) / Especially when I have to wait for my 16 year old. (Crit) / (sigh) (Concern)/ But, fortunately, he is a good kid. (Comp)

Dr: I've got a teenager, too. (Self-Dis) / I need a bullhorn to get him up in the morning! (Laughs) / (laughs) (Laughs)

Pt: (laughs) (Laughs)

Dr: Well, don't eat anything for at least 30 minutes after taking the Fosomax. (C-Med/Thera)

Pt: Okay. (Agree)

Dr: So we'll reschedule another bone density test for next year (Gives-Thera) / and we'll see how you're doing, (Gives-Thera) / okay? (?Understand)

Pt: Okay. (Agree)

Dr: Is there anything else you'd like to talk about today? (?Opinion)

Pt: Well.... (Trans)

Dr: Do you have any concerns? (Open PS) / You seem a bit upset. (Emp)

Pt: Is my osteoporosis really that bad? (?Reassure) / I mean, I exercise every day, (Gives-LS) / I eat yogurt and drink milk every day. (Gives-LS) / And I'm not overweight. (Gives-Med)/ I really don't have any risk factors for it. (Gives-Med)/ I've always believed in taking good care of myself. (Gives-PS)

Dr: Bet that's frustrating for you. (Emp)

Pt: Yes, it is. (Agree)

Dr: And that's very understandable. (Legit) / Well, first of all, it's great that you're doing all of those healthy things. (Approve) / Please keep doing them. (C-LS/PS) / They can only help you. (C-LS/PS) / But sometimes osteoporosis is not a result of lifestyle habits but of genetics. (Gives-Med) / The fact that you're a slender, white female is a risk factor. (Gives- Med) / Any history of osteoporosis in your family? (Open Med)

Pt: Not that I know of. (Gives-Med) / It seems so unfair. (Concern)

Dr: I can see why you feel that way. (Legit) / But osteoporosis responds well to the medication, (Gives-Thera) / and you're not having any side effects. (Gives-Thera) / So that's certainly encouraging. (R/O)

Pt: You're right. (Agree) / I know that it could be a lot worse. (R/O) / I really don't want to fall and break my hip! (Concern)

Dr: So keep taking that medicine every Monday morning, (C-Med/Thera) / and keep up with the exercise and diet, too. (C-LS/PS)

Pt: Okay. (Agree) / Oh, and I need the prescription refill before I go. (?Service)

Dr: Pick it up at the desk on your way out. (Orient) / And if everything goes well, I'll see you back in about a year. (C-Med/Thera)

Pt: Thanks, Doctor. (Approve)

Dr: Feel free to call me anytime if I can be of help. (Partner) / Mary will give me the message. (Gives-Thera)

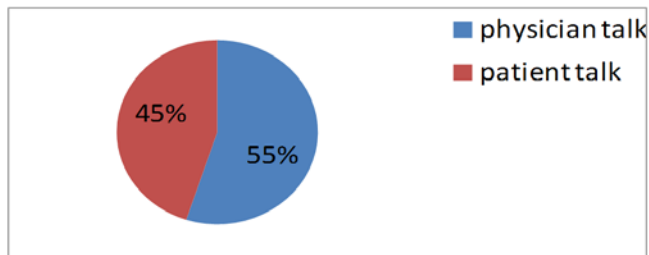
Pt: I appreciate that. (Approve)

Dr: Well, nice to see you today. (Approve) / Good-bye. (Personal)

Pt: Bye. (Personal)

Mrs. Johnson's Medical Visit

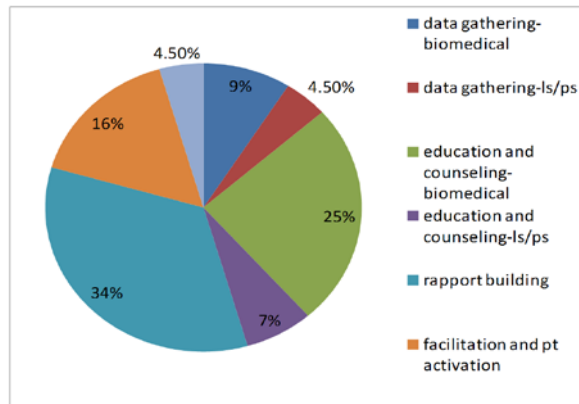
Overall Summary –Verbal Dominance:



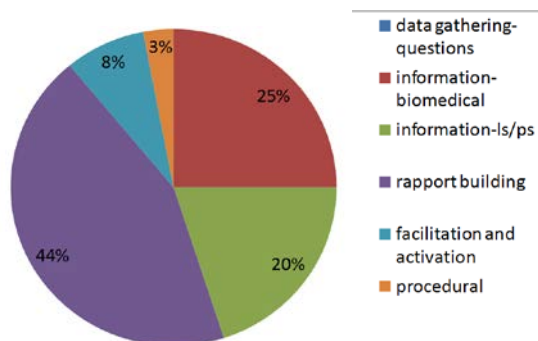
Patient Centeredness Score: 1.19

Visit Length: 2.3 minutes

Distribution of Physician Interaction



Distribution of Patient Interaction



Mr. Waller's Medical Visit

D. Mr. Waller, how are you? (Personal) / I'm Dr. Greenly (Personal)

P. Oh, not so good, doctor. (Concern)

D. Have a seat up there on the examining table... (Orient) / And, ah, tell me what your problem is. (?Opinion)

P. I get...short of breath most everything I (Gives-Med) / ...well, most active thing...I do. (Gives-Med)

D. Ah-huh. (Agree) / How long have you had this? (Closed Med)

P. It's been going on about...gradually about 8 or 10 years. (Gives-Med)

D. Is it getting worse now? (Closed Med)

P. Yeah. (Gives-Med)

D. Do you work or are you retired? (Closed LS)

P. I'm retired. (Gives-LS)

D. How long have you been retired? (Closed LS)

P. Six years. (Gives-LS)

D. Ah-hmm. (Agree) / Does this shortness of breath occur when you're resting or more when you exert yourself? (Closed Med)

P. More with exertion. (Gives-Med)

D. Ah-huh. (Agree) / Do you ever wake up at night short of breath? (Closed Med)

P. No. (Gives-Med)

D. Or wheeze at night? (Closed Med)

P. Ah...unless I have a coughing spell. (Gives-Med)

D. Ah-hmm, ah-hmm. (Agree) / Do your legs swell up at all? (Closed Med)

P. No. (Gives-Med)

D. Your ankles? (Closed Med)

P. No. (Gives-Med)

D. Ah-huh. (Agree) / Do you smoke? (Closed LS)

P. Yeah. (Gives-LS)

D. How much do you smoke? (Closed LS)

P. Ah...I'm down to about a half a pack a day. (Gives-LS)

D. Ah-huh. (Agree) / You had smoked heavier than this at one time? (Closed LS)

P. Yes sir. (Gives-LS)

D. How much did you use to smoke? (Closed LS)

P. Ah...for about 30 years I smoked about a pack and a half a day. (Gives-LS)

D. Ah-hmm. (Agree) / When did you cut down on your smoking? (Closed LS)

P. I saw a doctor...(Gives-Med)

D. Ah-hmm. (BC)

P. Recently and... (Gives-Med)

D. Ah-hmm. (Agree) And he told you to quit smoking? (Closed Med)

P. Yeah. (Gives-Med)

(After History segment, transition to Exam segment):

D. Any blood with your bowel movements, anything like that? (Open Med)

P. No sir. (Gives-Med)

D. Okay, Mr. --- . (Trans) / Do you want to take your shirt off so I can check you, please? (?Permission)

P. Ah-hmm. (Agree) / Is this alright up here? (Q-Other)

D. Sure, sure. (Gives-Other) / Or I'll just lay it down on this chair here. (Orient) I don't want it to fall.
(Concern)

P. (patient coughs)

D. You cough quite a bit, don't you? (Closed Med)

P. Yeah, ah-huh. (Gives-Med)

D. Do you wheeze sometimes too? (Closed Med)

P. Yeah. (Gives-Med)

D. Just have a seat on the table here. (Orient)

P. Yes sir. (Agree)

D. Just sit up with your feet over the side please. (Orient)

D. Do you live right in Baltimore or do you live in the suburbs? (Closed LS)

P. Suburbs. (Gives-LS)

(Exam is complete; transition to Counseling segment):

D. Okay. (Trans) / If you want to sit up and get dressed, Mr. – (Orient) / and I'll have my assistant come in and take your temperature. (Orient) / Then I'll have you come back to my office (Orient) / and I'll talk to you about your problem. (Orient)

P. Yes, sir. (Agree)

D. I'll see you in a few minutes. (Orient)

(Dr out of room for 145 seconds; visit resumes)

D. You might have emphysema (Gives-Med) / ...bronchitis or asthma (Gives-Med).../ But it sounds from your history and your examination like you have emphysema. (Gives-Med)

P. Ah-hmm. (BC)

D. That's an over-inflation of the air sacks in your lung (Gives-Med) / ...ah...and that is aggravated by smoking cigarettes. (Gives-Med) / Ahm...you should try to discontinue smoking completely. (C-LS/PS) / If you can't quit all of your smoking at one time, I advise over a period of a few weeks you gradually cut down one cigarette every other day (C-LS/PS) / so that you're off the cigarettes in two or three weeks. (C-LS/PS)/ Ah... (Trans)

P. That's a must? (Check)

D. That's must. (Concern) / Also I'd like you to drink a lot more fluids (C-LS/PS) / ...to loosen the mucous you have in your chest. (C-LS/PS)

P. Pardon me (Agree)... / like, like what? (Q-LS)

D. More water. (C-LS/PS) / I'd like you to get a cool mist vaporizer or humidifier to run in your room a few hours a day (C-LS/PS) / so that the vapor in the air will help loosen the mucous that you have. (C-LS/PS) / And if you're able to cough up this mucous, you will probably be able to get the air in and out of your lungs with less difficulty. (Gives-Med) / See, you have this thick yellow, green mucous (Gives-Med) / and this plugs your windpipe. (Gives-Med)

P. Ah-hmm. (BC)

P. Ah-hmm. (BC)

D. I'm also going to send you to the hospital...(Gives-Thera) /to get a, ah...blood test to measure the amount of oxygen in your blood. (Gives-Thera) / And here in my office we can take your chest x-ray and do a breathing test on you (Gives-Thera) / to see, ah...how much difficulty you have with breathing. (Gives-Thera)

P. OK. (BC)

D. Some of your problem may be reversible. (Gives-Med) / You may be able to improve considerably...(R/O) / if you follow my advice. (C-Med/Thera)

P. It gets better? (?Reassure)

D. Oh, yeah, it gets better. (R/O) / Maybe not completely better, (Concern) / but ah...significantly better. (R/O)

(Transition to Closing segment):

D. Okay, Mr. --- (Trans) / ... I'll see you next week. (C-Med/Thera)

P. Thank you, doctor. (Approve)

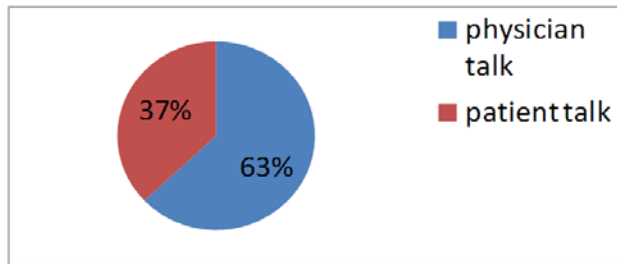
D. You're welcome. (Approve)

P. Bye sir. (Personal)

D. Bye. (Personal)

Mr. Waller's Medical Visit

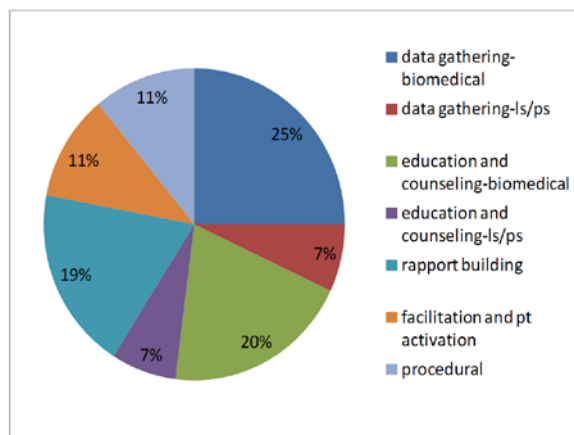
Overall Summary



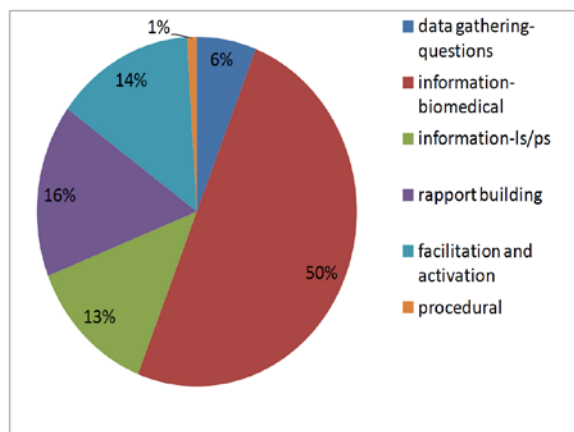
Patient Centeredness Score: .50

Visit Length: 14.35 minutes

Distribution of Physician Interaction



Distribution of Patient Interaction



A sequential listing of coded statements is generated for each coded visit when using the RIAS Applications software. The first 22 coded statements of Visit #2 are below –showing Visit ID, Speaker, Statement Sequence #, Code Category Description, Time Stamp(seconds into the visit), Visit Segment (opening, history, exam, counseling, closing), Blocks, Tags and Text Notes attached to code that specified content or targeted transcription. Compare the coded transcript (beginning on page 27, above) with this table.

Visit#2	Speaker 1=dr 2=pt	Sequence#	CategoryDescription	Visit seconds	Visit segment	Blocks	Tags	Text notes
00000002	1	1	personal	5	1	0 - No Blo	---	
00000002	1	2	personal	5	1	0 - No Blo	---	
00000002	2	3	concern	6	1	0 - No Blo	---	
00000002	1	4	orient	8	1	0 - No Blo	---	
00000002	1	5	?opinion	9	1	0 - No Blo	---	
00000002	2	6	GIVES-med	20	1	0 - No Blo	---	
00000002	2	7	GIVES-med	22	1	0 - No Blo	---	
00000002	1	8	agree	25	1	0 - No Blo	---	
00000002	1	9	[?]med	27	2	0 - No Blo	---	hx-taking begins
00000002	2	10	GIVES-med	32	2	0 - No Blo	---	
00000002	1	11	[?]med	34	2	0 - No Blo	---	
00000002	2	12	GIVES-med	36	2	0 - No Blo	---	
00000002	1	13	[?]/s	38	2	0 - No Blo	---	
00000002	2	14	GIVES-ls	39	2	0 - No Blo	---	
00000002	1	15	[?]/s	40	2	0 - No Blo	---	
00000002	2	16	GIVES-ls	41	2	0 - No Blo	---	
00000002	1	17	agree	44	2	0 - No Blo	---	
00000002	1	18	[?]med	48	2	0 - No Blo	---	
00000002	2	19	GIVES-med	48	2	0 - No Blo	---	
00000002	1	20	agree	48	2	0 - No Blo	---	
00000002	1	21	[?]med	50	2	0 - No Blo	---	
00000002	2	22	GIVES-med	52	2	0 - No Blo	---	

If coding of specific content is indicated in addition to the RIAS codes, the software may be reconfigured to mark defined exchanges within the visit devoted to a particular topic (“Blocks”) as well as specific content (“Tags”).

Mr. Waller’s visit was part of a study that included evaluation of a smoking education intervention. Note that at sequence/record #31 the doctor asked “Do you smoke?” (see verbatim transcription in the text notes field), and that the “Smoking” block was activated to indicate that talk about smoking had been initiated. More specifically, tags 102 and 105 mark discussion around how much the patient smokes and his prior history of smoking (two of about 10 items of smoking behavior that were identified for “tagging” in this study).

Visit #2	Speaker 1=dr 2=pt	Sequence#	CategoryDescription	Visit seconds	Visit segment	Blocks	Tags	Text notes
00000002	1	28	[?]med	60	2 0 - No Blo	---		
00000002	2	29	GIVES-med	60	2 0 - No Blo	---		
00000002	1	30	agree	64	2 0 - No Blo	---		
00000002	1	31	[?]I/s	64	2 1-Smoking	---		DO YOU SMOKE?
00000002	2	32	GIVES-Is	64	2 1-Smoking	---		
00000002	1	33	[?]I/s	64	2 1-Smoking	102		how much
00000002	2	34	GIVES-Is	68	2 1-Smoking	---		
00000002	1	35	agree	69	2 1-Smoking	---		
00000002	1	36	[?]I/s	70	2 1-Smoking	105		prior history
00000002	2	37	GIVES-Is	74	2 1-Smoking	---		
00000002	1	38	[?]I/s	75	2 1-Smoking	---		
00000002	2	39	GIVES-Is	80	2 1-Smoking	---		
00000002	1	40	[?]I/s	82	2 1-Smoking	---		
00000002	2	41	GIVES-med	85	2 1-Smoking	---		
00000002	1	42	BC	88	2 1-Smoking	---		
00000002	2	43	GIVES-med	90	2 1-Smoking	---		
00000002	1	44	agree	92	2 1-Smoking	---		
00000002	1	45	[?]med	92	2 0 - No Blo	---		
00000002	2	46	GIVES-med	92	2 0 - No Blo	---		
00000002	1	47	[?]med	95	2 0 - No Blo	---		
00000002	2	48	GIVES-med	96	2 0 - No Blo	---		
00000002	1	49	?med	97	2 0 - No Blo	---		

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