CoMac Analytics

Patient-centric Segmentation Communication System for Effective Health Management

Via linguistics, CoMac Analytics, Inc., is able to segment patients based on their own perception of self and illness. The CoMac approach is alone in offering healthcare professionals patient segmentation, communication strategies, and tools that are anchored to the individual patient. The use of the CoMac approach and tools improves adherence, health behaviors and outcomes.

An Approach with Unique Insights Anchored in Scientific Peer-Reviewed Research

Insights:

1. Patients see themselves and the world through different perceptual frameworks. Each of these frameworks has its own use of language and structure.
2. Patients with different perecptual frameworks or worldviews have different health care behaviors.
3. Individualized patient management, using patients' own language, improves adherence.

The Science Behind the CoMac Approach

The CoMac model of segmentation and tailored communication is based on the findings of psycholinguistic research, conducted with the International Center for Intercultural Communication (ICIC), located on the campus of Indiana University-Purdue University Indianapolis. The resarch is based on extensive indepth interviews with 81 patients with Type-2 diabetes linking their individual language to three well-known psychosocial constructs:

1. **Agency** (Ability/willingess to follow through instructions with either minimal or no lapses versus frequent lapses; closely related to self-efficacy, Bandura 1977)
2. **Affect** (Emotions in relation to coping with illness; maintaining and expressing a positive outlook or an ongoing negative outlook, Martin and White 2005)
3. **Control Orientation** (Control over situations, closely related to locus of control, Rotter 1966, as either internal or external events due to the patient's own behavior versus events due to other influences)

Constructs	Examples of Patient Talk
Agency High (takes charge) Low (does not take charge)	"I take my medications constantly." "I hate to take the medicines, there are too many side effects."
Affect Positive (upbeat) Negative (downbeat)	"I absolutely think I can manage it." "I'm fustrated most of the time."
Control Orientation Internal (looks to self for directions) External (looks to others for directions)	"I intend to lick this thing [diabetes]." Unfortunately I'm a sweetaholic. If they didn't make sweets, I probably wouldn't be diabetic."

Overview of CoMac Tools

Segmentation Tool™

The Descriptor™ segments patients into eight behavior clusters that predict adherence.

Communication Tools™

- Points of Emphasis™
- Linguistic Cues™

Tested & Vetted

- In multiple languages
- In multiple countries
- In multiple disease states

Electronically Available

- Immediate segmentation results
- Immediate communication strategies
- Measureable coutcomes:
    - Patient and doctor satisfaction
    - Follow-up rates
    - Change in health outcomes
    - Change in health behaviors

Segmentation Tool

The CoMac Descriptor™

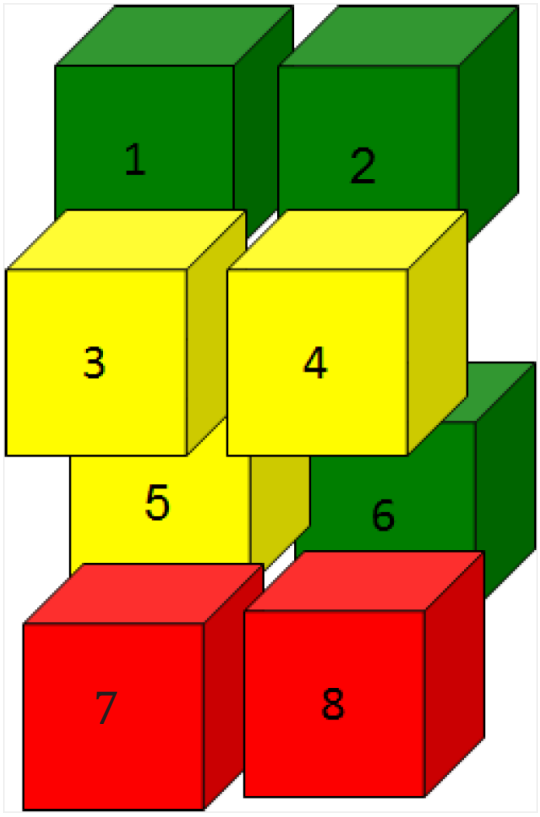
- 12 questions
- Scenario-based linguistic choices
- 10-minute administration

Sample Question

How did you feel after you found out that you were diagnosed? Choose the option that BEST captures your feelings.

a) That's the way it is... Whatever will be, will be.
b) I can fight this and keep it under control.

Descriptor™ (Segmentation) Cluster Results



Key

1. HIGH AGENCY/POSITIVE/INTERNAL(HPI)
2. HIGH AGENCY/POSITIVE/EXTERNAL (HPE)
3. LOW AGENCY/POSITIVE/INTERNAL (LPI)
4. HIGH AGENCY /NEGATIVE/INTERNAL(HNI)
5. HIGH AGENCY/NEGATIVE/ EXTERNAL (HNE)
6. LOW AGENCY/POSITIVE/EXTERNAL (LPE)
7. LOW AGENCY/NEGATIVE/EXTERNAL (LNE)
8. LOW AGENCY//NEGATIVE/INTERNAL (LNI)

- Green- higher adherence
- Yellow- moderate adherence
- Red- lower adherence

Examples of Communication Tools for Patient Clusters: "High/Positive/Internal"

Behavior Cluster	Points of Emphaisis	Linguistic Cues
High Agency	Takes charge: • Focus on patient's actions • Focus on history of accomplishments • Focus on overcoming obstacles • Focus on patient's benefits	• "Here is another challenge." • "This will help you." • "Let's set another goal for your next visit."
Positive Affect	Upbeat: • Focus on feeling good • Focus on relationships • Focus on progress	• "Keep up the good work in..." • "It's really good that you've done..." • "Great that you are staying so positive." • "Compliments on not getting discouraged."
Internal Control	Looks to self: • Focus on patient initiative • Focus on ownership • Focus on decision making	• "You're in the driver's seat." • "Let's talk about how you..." • I encourage you to review the benefits of..."

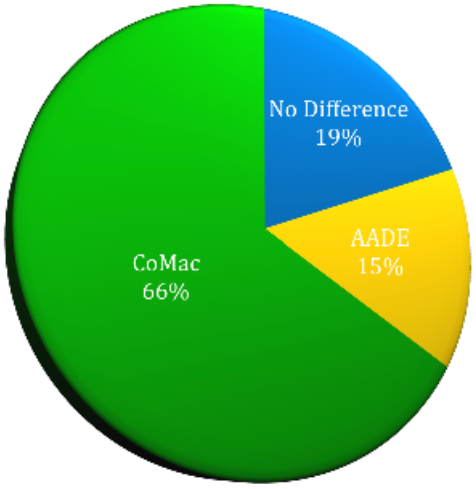
Examples of Communication Tools for Patient Clusters: "Low/Negative/External"

Behavior Cluster	Points of Emphasis	Linguistic Cues
Low Agency	Doesn't take charge: • Propose small steps • Propose framework	• "It is important you..." • "This guide will help you follow..."
Negative Affect	Downbeat: • Acknowledge sentiment • Focus on support from others	• "I know this is hard" • "It is difficult, but it will make you feel better if..."
External Control	Looks to others: • Emphasize role of doctor • Emphasize science	• "You are in the driver's seat." • "Let's talk about how you can take charge of this."

Preferred by Patients and Providers

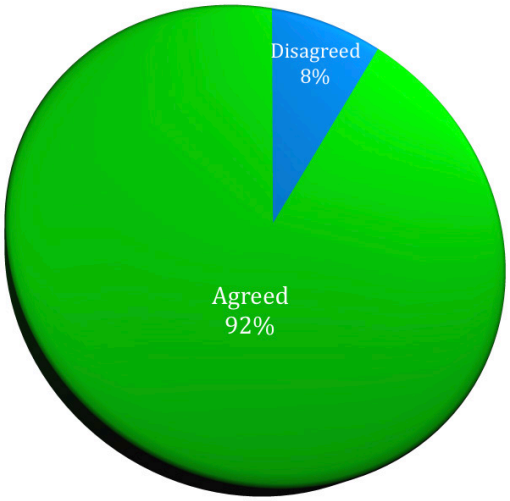
Study 1

Sixty-six percent of patients in a Midwest diabetes clinic preferred the CoMac messages to standard AADE messages.



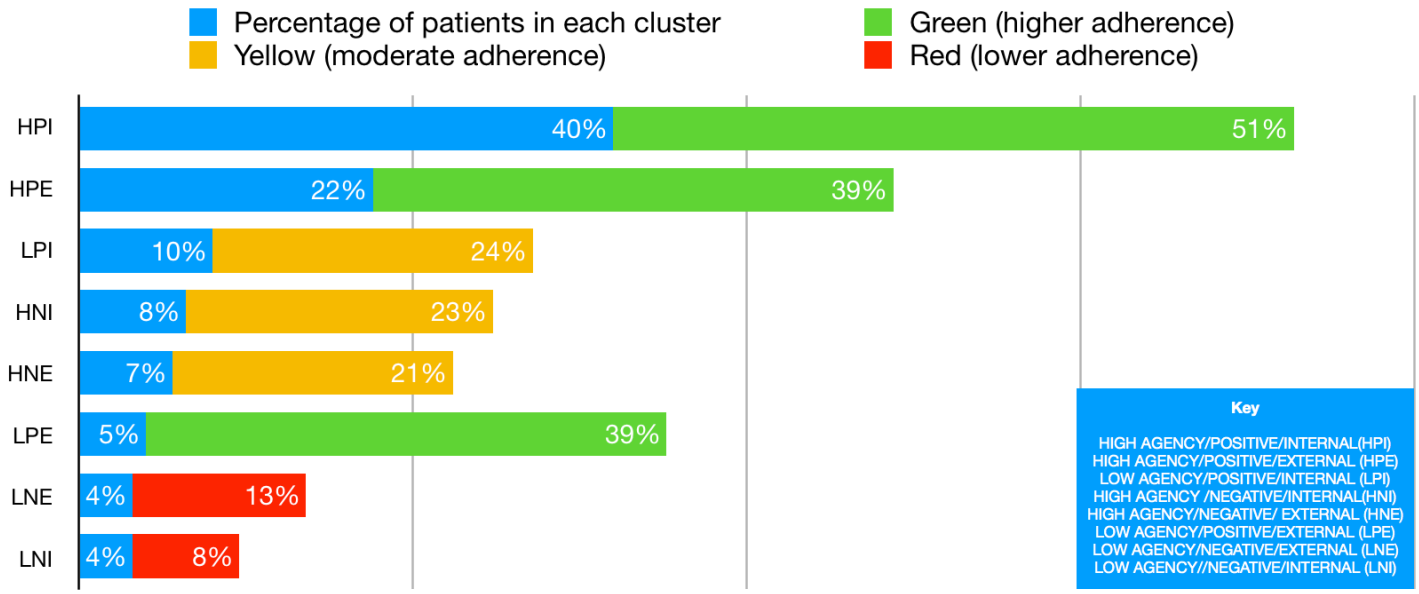
Study 2

Ninety-two percent of cardiologists in two Latin American countries agreed on the value of the CoMac segmentation and communication tools in a 32 cardiologist/829 patient study



Significant Differences in Adherence by CoMac Cluster

- 353 patients with hypertension in three European countries, 2011



- Results show that the adherence level in the High/Green group is highly statistically significant at the .05 level compared to Medium/Yellow and Low/Red groups.

Significant Differences in Patients' A1C Level Reductions

- Midwestern Diabetes Care Center, 120 patients, 2017

Results

	Starting A1C	Ending A1C	Change in A1C
Control group (N=50)	8.3	7.6	-0.7
Intervention group (N=70)	8.9	7.3	-1.6

- Results show statistical significance in A1C level reduction at $p<0.044$ level.

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