

PROMOTING BEHAVIORAL CHANGE: AN EFFECTIVE APPROACH IN CHRONIC DISEASE MANAGEMENT

Treating patients as individuals with unique health behaviors

To diagnose a disease is to know it from its symptoms. Traditionally, it has been straightforward: physicians classify patients by their symptoms and general medical condition, and perhaps their demographics, with little concern for their identity as an individual or, for that matter, any other aspects of their history or lives that could distinguish them from others in their age or disease category. Many sufferers of chronic diseases have found that this way of thinking tends to reduce them to facts and figures in the eyes of their physicians, meaning that their involvement and engagement in their treatment becomes an afterthought.

The good news for patients is that, over the last 30 years, there has been a shift in thinking. **The field of behavioral medicine has emerged as an exciting new discipline, allowing systematized approaches for management of chronic diseases.** In order to practice behavioral medicine, a physician must be able to recognize and address health behaviors that put patients' at risk and at the same time help them with self-management. Examples of targeted health behaviors are eating habits, frequency of physical activity, other aspects of body weight management, reactions to and coping with stress, behaviors related to spirituality or mind-body techniques, and tobacco and substance abuse, all of which can affect treatment plan adherence. The first step in the development of this field was to create the idea of behavioral categories, somewhat like the Myers-Briggs Type Indicator (MBTI) or Big 5 personality traits (Openness, Conscientiousness, Agreeableness, Extraversion, Neuroticism), but focused on identifying particular health behaviortypes.

We have advanced well into next step in refining this field, where the goal is to be able to provide insights into patients' underlying motivations for their behaviors. **Just as there are specific clinical drivers that affect a patient's clinical progress, there are behavioral drivers that affect the way the patient behaves with respect to their health.**

Here are a few examples of specific questions that can be asked about patients' health behavior drivers:

- 1) What are their general attitudes toward healthcare?
- 2) What is their current understanding of their disease and its treatment?
- 3) What is their social situation? How do they view their condition and treatment with respect to their place in society?
- 4) What are practical difficulties they encounter in daily life, including time, financial, or physical constraints?
- 5) What motivates them?

The key innovation this field has brought to medicine is the idea that patients cannot be lumped together into large or even small categories. They must be treated as individuals, just as has always been the case with purely clinical matters.

Diagnosing health behaviors to connect patients with their treatment

Behavioral medicine is applicable to all patients, but it is especially important for patients with chronic disease. These conditions often require multiple lifestyle changes, sometimes drastic. Patients must learn to follow their treatment regimen. This may not be as simple as taking a daily pill, though even that requires some altering of established routines. For a person with a chronic disease, these major lifestyle changes combined with the condition may lead to mental health problems such as depression or anxiety. Though psychologists are able to help patients adapt by using techniques such as cognitive behavioral therapy (CBT), physicians have neither the training nor the time to help patients in this way.

For these overworked physicians to be able to help patients live well and for longer, they must rely on another means of assessing their patients' health behaviors and communication needs. Digital behavioral diagnostics can help fill in this gap in care. Based on well-tested behavioral models from several scientific domains, behavioral diagnostics can be used by healthcare professionals to **accurately predict patient adherence to medication and suggested lifestyle changes while also identifying actionable drivers of adherence behavior**. These data can also be exploited without human interpretation, meaning they could be analyzed by purely digital patient services.

This method also has advantages for patients. By increasing understanding of non-adherence at the population level, patients who might otherwise find their treatment regimen too difficult can be provided with individually tailored support, allowing them to feel more in control over their condition. This in turn can increase their self-confidence and self-management abilities, leading to an overall improvement in quality of life.



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The vast potential of behavioral medicine

At a little over 30 years old, behavioral medicine remains a relatively young field with great as-yet-untapped potential. For example, future primary care physicians will be able to incorporate principles gleaned from work in behavioral medicine into their care for patients with chronic conditions. Better understanding of patients will improve physician-patient relationships, in turn encouraging patients to engage more in their own healthcare.

The future holds the promise of many other exciting new advances that have major implications for behavioral medicine. Observia is well-positioned to play a leading role in exploring and implementing creative new ways to address these advances and their implications. SPUR™, Observia's next-generation behavioral diagnostic tool, represents a key innovation in this field. **It has the potential to revolutionize the way we assess and address patient health behavior. It can also provide us with key methods for enhancing patient engagement and driving positive outcomes through behavioral change.**

SPUR™ covers four domains of behavioral drivers:

- 1) Social – how relationships, social standing, and social norms impact health behavior
- 2) Psychological – deeply rooted aspects influencing health behavior, including self-identity, responses to authority and the discounting of future benefits
- 3) Usage – ability to access and follow the treatment regimen
- 4) Rational – cognitive and educational elements, including health understanding and beliefs

Through these four domains, SPUR™ provides a thorough, individualized behavioral diagnosis. This combined with its digital nature means it can drive a fully digital intervention. SPUR™'s Bayesian structure merges with the Bayesian approach of artificial intelligence (AI) and natural language processing (NLP) to provide fully individualized interaction with patients.



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This interaction means that the individual behavioral diagnosis can then be used to predict the patient's health behaviors and develop an individually-tailored behavioral change intervention. This intervention provides immediate personalized feedback for the patient, while fashioning an engagement plan that takes into account the risk of non-adherence, the level of support required, whether that be emotional or practical, and, finally, that patient's triggers for maladaptive health behaviors – i.e., the reasons the patient's treatment regimen is at risk. In this way, the same type of technology that allows Netflix to provide customized entertainment suggestions can be applied to help patients adapt their health behaviors and better cope with their chronic conditions.

The team at Observia and others around the world continue to study physician-patient relationships, analyze data, and develop software to improve each patient's overall experience of health care. With rapid advances in behavioral medicine and technology occurring side by side, the future is bright for physicians and patients alike.

Learn more about [our SPUR™ diagnostic tool](#).