

Cracking the Adherence Code:

Marrying High Tech with Human Touch Increases Adherence, Improves Outcomes, and Reduces Chronic Diseases

Digital Technology Alone, is Not the Panacea

Over \$8.1 billion dollars were spent on digital health in 2018, with little evidence of any significant impact (AMA). Currently there are over 318,000 medical apps. A meta-analysis in *Nature* (May 2018), shows only a small fraction have been tested and fewer than half showed a positive health effect. And, despite massive investment, **technology-based solutions have not reduced the human or economic costs of chronic disease. And they are least effective with patients who need them most:** Seniors over 65 represent 16% of the population but account for 40% of all healthcare spending (which doubles when they turn 70). Abundant data show seniors are least likely to use digital health technology.

Google “patient engagement” and you’ll find 382 million entries... and over one billion for “patient experience.” There is growing awareness that a different – more individualized – approach is needed to change patients’ unhealthy behavior, responsible for 85% of chronic disease. Generic advice – especially delivered digitally simply does not work.

iConnectHealth takes a different approach: it **marries high tech with human touch**, enabling medical providers and health insurers to quickly understand and engage each individual patient, and provide *Individualized Wellness Plans* to help them quit smoking, lose weight, increase exercise, reduce alcohol usage and manage stress.

iConnectHealth: Individualizing Healthcare

Working with Personality Psychology for 40 years, we were convinced it had broad implications and applications with regard to chronic disease.

In developing a system to address this problem, we conducted five rigorous studies involving over fifty thousand subjects. Our research had two objectives: 1) to learn how personality type impacts health; and 2) to create a tool to improve outcomes by individualizing treatment. Because they are inextricably linked, the tool we created not only improves outcomes, but reduces costs as well. **iConnectHealth** consists of five components:

1. A quick and accurate online personality assessment

Takes users 3.5 minutes, is over 90% accurate and can be taken on any tablet/device/Smartphone, or over a landline.

2. Adherence Predictive Index™ (API™) score

A score of 1-5, which indicates how adherent the patient is likely to be with regards to medication- taking and following providers' recommendations.

3. Communication RX™ For Providers

Result of the 3.5-minute patient assessment which enables providers and insurers to motivate and engage each of the four different patient styles.

4. Individualized Wellness Plans™ (IWPs™)

A customized report with the specific activities that are most likely to help each patient quit smoking, lose weight, get adequate exercise, reduce alcohol usage and manage stress.

Tangible Benefits for Insurers and Providers

The two healthcare stakeholders who can benefit most from iConnectHealth are providers and health insurers. We quickly learned that in order to be adopted by providers, iConnectHealth must meet three criteria: **1) appreciably improve patient outcomes; 2) not take additional provider time; and 3) not interrupt office workflow.** Similar criteria exist for insurers. In both cases, iConnectHealth checks all three boxes.

Health Insurers: Reduced Costs

- *Reducing by 3-5%, new cases of type 2 diabetes and other chronic diseases.*
- *Reducing risk by identifying members at greater risk for specific chronic illnesses.*
- *Helping patients change unhealthy behaviors through Individualized Wellness Plans.*
- *Enabling case managers to better engage and motivate each individual member.*

Providers: Improved Outcomes

- *Increased patient adherence & decreased number of no-shows*
- *Improved patient satisfaction*
- *Helps patients change unhealthy behaviors*
- *Improved patient & provider experience*
- *Optimizes providers' time with patients*

Digital Health Technology: Used Least by Patients Who Need It Most

The sickest, most expensive, and fastest growing segment of the US population are seniors, 65 years and older. Although seniors make up 16% of the US population, they account for 40% of healthcare-related spending (CMS).

Annual healthcare spending per patient 65 and older was \$11,316 (*in 2016*), almost three times higher than working age individuals. And medical expenses more than doubled for patients over seventy (KFF).

Although approximately fifty percent of people 65 and over own smart phones and seventy percent regularly use the internet, **only 16% of seniors use health-related apps**. There are many reasons why seniors don't embrace medical technology, but the biggest is the most obvious: seniors are different from their younger cohorts in significant ways:

A large portion of the senior population is:

- Only comfortable sharing their most personal concerns with another human being, often someone they've known for many years.
- Mistrustful of the Internet and much more concerned about privacy issues.
- Slower to embrace change, especially concerning new technology.
- Often confused and stressed by having to download apps, sync devices, remember multiple passwords, read very small fonts, etc.
- Very consumer-oriented: expect—and respond best to personalized, face-to-face interaction and service.
- Often under significant stress by having multiple chronic illnesses themselves, and/or being caregivers to spouses who have them.

It's true that many seniors conduct research via the internet, and some use apps to remind them to take medication or to confirm doctors' appointments. However, the most important interactions between providers and patients occur when they are face-to-face in the examination room. No app – not even those that employ AI – can create the kind of **trusting, personal relationship patients are hungry for, which research shows improves compliance and outcomes**.

By relying so heavily on digital technology, healthcare stakeholders may be “putting all their eggs in the wrong basket” (as evidenced by the fact that most seniors will understand this reference, while younger people will not).

Blending Personality Psychology with Technology to Change Behavior

The reasons why Americans are so unhealthy are numerous, complex, and include a combination of genetic, psychological and socioeconomic factors. Certainly, the problem is not a lack of available information about the dangers posed by smoking, alcohol abuse, inadequate exercise, stress, or obesity—nor is there any shortage of products and services promising to mitigate these problems. With regard to obesity, marketers deliberately *exacerbate* the problem by normalizing unhealthy behavior, in order to get consumers to relate to the actors pitching their products.

Basic “human nature” is the main culprit: human beings resist change and tend to avoid difficult activities, such as exercising regularly or keeping track of what they eat. People who are overweight or obese know it and are aware of the serious health consequences. Of course, this is not to suggest fitness is simply a matter of free will, or that genetics and additional predisposing factors are not responsible for significant chronic disease! But the focus should be on the much larger percentage of the population for whom unhealthy behaviors can be mitigated through recognized lifestyle changes – if we truly want to fix the core problem.

We don't need more data...we need more eye contact.

What is also missing is the recognition that every human being is unique, and patients differ from one another in significant ways, including how motivated they are to act, and the behaviors they're most likely to engage in. We all know people we'd describe as “driven” – they usually have a strong work ethic and need to be productive in order to feel good about themselves. Others are more laidback, relaxed and tend to not sweat the small stuff. Not surprising, **original research involving 17,600 subjects** showed people in the former group are much more medication adherent and likely to follow their doctors' recommendations, than those in the latter.

So, it makes sense that an exercise strategy that's exactly right for one patient, may be exactly wrong for another. While one patient enjoys the energy and camaraderie of belonging to a gym, another would never consider exercising with others, but enjoys walking each morning with a friend. In addition to what advice patients are given, *how* that advice is communicated matters a great deal. Of course, all patients want their providers to be competent. But **many patients are much more likely to be compliant if their doctor communicates warmth and genuine caring.** This is what used to be referred to as a “good bedside manner.”

*Patients won't care how much you know,
until they know how much you care.*

Not only is there a lack of emphasis on the “human factor” in the healthcare equation, there is also a lack of interpersonal expertise. This makes sense since most medical providers are at heart – scientists – not therapists. At the end of the day, the single most underappreciated influence on patient behavior is **the preeminent importance of the provider-patient relationship**. Multiple studies show that patients who trust and relate to their providers are more compliant, experience better outcomes, report greater patient satisfaction, and are much less likely to sue for malpractice if something goes wrong.

Using Personality Psychology to Understand Patients

The most widely used model in Personality Psychology is based on the work of Swiss psychiatrist Dr. Carl Jung and expanded upon by American researcher Isabel Briggs Myers.

For over fifty years, Personality Psychology has provided powerful insights into human behavior. The Jung/Myer’s model is frequently used by psychologists and therapists to help patients dealing with behavioral health issues. This model has also helped millions of people make more satisfying and successful career choices and is used by eighty-nine percent of Fortune 100 companies to help people be more successful, and help leaders motivate employees and improve workplace productivity.

Other personality frameworks such as the Five Factor Model are frequently used in academic research. However, **the most comprehensive – and conclusive – health/healthcare research to date has been conducted using the Jung/Myer’s Model**. This model provides such valuable insights because it posits four central dimensions of behavior describing how a majority of people behave in a myriad of circumstances. These four dimensions are believed to be inborn and do not change throughout a person’s lifetime.

“You cannot ask a doctor to make sense of a stranger in 10 minutes.” – Malcolm Gladwell

The four dimensions are reflected in dichotomous unconscious “preferences” for either Extraversion or Introversion (the source of energy which is either externally or internally-directed); Sensation or Intuition (perception based primarily on facts and details, or possibilities and imagination); Thinking or Feeling (decision making criteria based primarily on logic or personal values); and Judging or Perceiving (the desire to live in a more planful and organized or spontaneous, unstructured way).

A complementary model called **Temperament Theory** is the life’s work of psychologist David Keirse. Many practitioners consider it to be the foundation of personality type because it **identifies**

individuals' core values, key motivations and preferred communication style. The notion of there being four different temperaments was first described by Hippocrates in 450 BC. Throughout history and across diverse cultures, philosophers, writers – and more recently psychologists – have observed how similar behaviors seemed to fall into four discrete categories. iConnectHealth builds on the synergy of Jung, Myer's and Keirse's work to create a powerful, practical new healthcare application of Personality Psychology.

Rigorous Evidence-Based Research

To prove there were broad applications of Personality Psychology in health care, we conducted five robust studies (n = 50,000), which have been published in peer-reviewed journals.

Our studies confirmed there are several **practical healthcare applications** of Personality Psychology:

- **Predicting Individual Patients' Medication Adherence (n = 16,700)** *Established a statistically significant correlation between personality type and medication adherence; validated a new assessment that accurately identifies medication adherence for each patient based on their personality type, age cohort, education level and ethnicity.*
- **Identifying New Health Risk Factors (n = 10,500)** *Identified – for the first time – specific health risks posed by each of the 16 personality types; identified those types at greatest overall risk and responsible for driving a vastly disproportionate share of healthcare costs.*
- **Improving Provider-Patient Communication (n = 1,732)** *Established the importance of effective provider-patient communication to improve compliance and outcomes. Also validated state-of-the-art personality type assessment which takes approximately 3.5 minutes to complete and is 90.2% accurate.*
- **Identifying Types of Patients at Greatest Risk for Anxiety and Depression (n = 10,500)** *Demonstrated that personality type is strongly associated with both anxiety and depression and identified those individuals at significantly greater risk than others.*
- **Creating Individualized Wellness Plans (n = 10,500)** *Developed 16 Individualized Wellness Plans that provide specific strategies patients of each personality type are most likely to use to **quit smoking, reduce alcohol usage, lose weight, get adequate exercise and reduce stress.***

The greatest value of this model, as demonstrated by this research, is its potential to *individualize* and simplify healthcare, which can only be accomplished using a **simple, accurate, and affordable system**, which allows providers and insurers to engage and motivate each individual patient.

Potential iConnectHealth Stakeholders

Multiple healthcare stakeholders need to reduce costs and/or increase revenue by better engaging and retaining patients in activities that will improve outcomes. This list includes:

- Healthcare insurance providers
- Hospitals and healthcare systems
- Large physician practices
- Medicare
- Workers' Compensation programs
- Wellness and disease management services
- Pharmaceutical companies
- Retail pharmacies
- Self-insured companies
- Patient satisfaction and analytical services
- Telemedicine companies
- Fitness / weight loss companies

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***The economic costs of chronic diseases are unsustainable,
the human costs should be unacceptable.***