INTRODUCTION
Welcome! Or, welcome back! And thank you for taking the time to review the 2018 edition of Kantar Health’s Global Health and Wellness Report (GHWR). Driven by our National Health and Wellness Survey (NHWS), which was launched in 1998 and is celebrating its 20-year anniversary, this unique and comprehensive record of global health provides incomparable patient insights on the most pressing health challenges of today for the United States, the EU5 (France, Germany, Italy, Spain and United Kingdom), Japan, and key Emerging Markets (Brazil, China and Russia).

The GHWR, backed by the most recent data and now covering more than 3 million survey responses globally, represents the voice of the patient on the true impact of approximately 200 health conditions and thousands of sub-segments. Industry stakeholders such as patients, caregivers, employers and payers, as well as other key influencers such as industry personnel, patient advocacy groups and governmental agencies, will find great value in a better understanding of the magnitude of diseases and the many aspects of health-related outcomes - both within and across country lines.

FIGURE: SURVEY RESPONSES OVER 20 YEARS
In each year that we produce the GHWR, certain dynamics take shape as key influencers of global health. The 2018 edition of the GHWR is no different – finding that there are five pillars around which the most impactful issues affecting global health and wellness are coalescing today.
FIVE PILLARS DRIVING GLOBAL HEALTH

I. AFFORDABILITY

The 2018 GHWR finds that affordability continues to be a dominant issue globally as governments and private payers are challenged to provide patients appropriate access to effective treatments while balancing the costs of those therapies. With fewer regulatory approvals of “me too” compounds, an important focus has been on rare diseases and the premium pricing that associated medicines command. Additionally, innovative medicines, such as Novartis and Amgen’s co-developed Aimovig™ (erenumab), continue to take center stage, with the first compound for the migraine-fighting calcitonin gene-related peptide (CGRP) class bringing with it a U.S. list price of $6,900 annually, according to various news sources.

In response, payers are pushing manufacturers for more evidence to support reimbursement. This often includes a combination of real-world evidence (RWE) focused on unmet medical need and/or patient registries and comparative effectiveness studies. While details and KPIs often remain undisclosed, more risk sharing is occurring. Additionally, a greater number of value frameworks are being developed, with the Institute for Clinical Effectiveness Research (ICER) often playing a role in these.

Patients are also taking a stand and implementing their own cost saving strategies. This can be dangerous as non-compliance can reduce efficacy and speed up disease progression. In fact, about one in five patients in the United States report having chosen not to refill a prescription at some point due to cost. The United States ranks highest in this category compared with the EU5, Japan and Brazil. U.S. patients are most likely to employ cost savings strategies such as:

+ Taking less medicine than prescribed,
+ Cutting tablets in half,
+ Not filling a prescription because it was too expensive,
+ Not filling a prescription and using an OTC medicine to save money,
+ And buying a prescription less often than directed.
FIVE PILLARS DRIVING GLOBAL HEALTH

**I. AFFORDABILITY**

<table>
<thead>
<tr>
<th>NET: Cost saving strategies used (past 6 mos.)</th>
<th>U.S. 2017</th>
<th>5EU 2017</th>
<th>JAPAN 2017</th>
<th>BRAZIL 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking less medication than my doctor prescribed</td>
<td>33.1%</td>
<td>20.9%</td>
<td>13.6%</td>
<td>47.1%</td>
</tr>
<tr>
<td>Cutting tablets in half</td>
<td>4.5%</td>
<td>3.1%</td>
<td>2.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Buying fewer tablets</td>
<td>2.0%</td>
<td>2.1%</td>
<td>0.8%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Asking doctor or pharmacist for generic alternatives</td>
<td>12.68%</td>
<td>11.8%</td>
<td>6.7%</td>
<td>26.2%</td>
</tr>
<tr>
<td>Asking for samples</td>
<td>8.07%</td>
<td>2.3%</td>
<td>0.7%</td>
<td>11.8%</td>
</tr>
<tr>
<td>Not filling a prescription because it was too expensive</td>
<td>7.2%</td>
<td>3.3%</td>
<td>0.6%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Not filling a prescription and using an over-the-counter (OTC) as an alternative because it is less expensive</td>
<td>4.6%</td>
<td>2.5%</td>
<td>1.5%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Buying prescription less often than directed</td>
<td>3.2%</td>
<td>2.3%</td>
<td>1.0%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Buying prescriptions multiple months at a time through mail order</td>
<td>7.4%</td>
<td>1.7%</td>
<td>0.5%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Using coupons for medications</td>
<td>6.5%</td>
<td>1.7%</td>
<td>1.7%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Using discount card provided by a healthcare company</td>
<td>6.0%</td>
<td>1.3%</td>
<td>0.3%</td>
<td>8.9%</td>
</tr>
<tr>
<td>I haven’t tried any of these</td>
<td>66.9%</td>
<td>79.1%</td>
<td>86.4%</td>
<td>42.9%</td>
</tr>
<tr>
<td>Didn’t fill my prescription because of costs (ever)</td>
<td>20.0%</td>
<td>10.7%</td>
<td>5.0%</td>
<td>NA</td>
</tr>
</tbody>
</table>

For China, 2018 GHWR data indicates that there’s been a significant drop in prescription medicine use for a variety of diseases and conditions, including pain, insomnia, Irritable Bowel Syndrome (IBS) and osteoporosis. We believe this can be attributed to a concerted effort by the Chinese government to promote traditional Chinese medicine (TCM) as having equal status to Western medicines in managing disease. One clear reason behind this effort is that TCM is much less expensive compared to the cost of Western medicines.

As shown in the chart on the next page, from 2009 to 2017, China experienced a dramatic drop in patients treated for...
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paid with a prescription medicine (from 13.9 percent in 2009 down to 3.0 percent in 2017). In Brazil, there’s also been an expansion of over-the-counter (OTC) treatment use similar to China, with Brazil experiencing a noticeable rise in OTC treatment use between 2011 and 2017.

Finally, affordability is a significant issue for cancer patients and patients suffering from widespread chronic diseases such as diabetes. For example, in China, even when a diabetes medicine secures a spot on China’s National Reimbursement Drug List (NRDL), many restrictions are often placed on the medicine for patient access. These restrictions include cost constraint measures, which can limit a medicine’s supply to one week at a time, as well as require patients to demonstrate that they have already tried a cheaper, first-line therapy.

In the United States, EU5 and Japan, prescription pain medicine use has fallen, but the problem remains critical, especially in the United States, as many addicts have turned to heroin or illegal fentanyl as their drug of choice.
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In the United States, the opioid epidemic continues to be just that – an epidemic that’s getting attention at the federal and state level but with inconsistent success in alleviating the situation. A variety of legislation has been passed and proposed to limit access to opioid medicines and track treatment patterns.

While overall U.S. prescription opioid use peaked in 2011 and has trended downward since, 27 U.S. states actually experienced an increase in opioid use from 2011 to 2017. What’s more, Kantar Health National Health and Wellness Survey (NHWS) research indicates that working class communities have been the most vulnerable, as these communities are failing

**FIGURE: PRESCRIPTION PAIN MEDICINE USE IN THE U.S., EU5 AND JAPAN**

*Data for Japan is from 2008*
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to respond to anti-opiate messaging. Thus, opiates are thriving in communities that do not thrive.

For example, in New Jersey, our NHWS research provides some key insights on opiate use relating to income, education and employment. With regards to income, we found that more than two times as many opioid users in New Jersey have a household income of < $25,000 versus those who do not use opioids, and it appears that there has been an increase in lower income people using opioids from 2011 to 2017. Regarding education and employment, opioid users are more likely to be non-college grads, as well as unemployed. And, opioid users are four times more likely to be on disability.

FIGURE: U.S. ADULT OPIOID USERS BY STATE
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FIGURE: STATES WITH INCREASED OPIOID USE SINCE 2011

+ Alabama
+ Arizona
+ Arkansas
+ California
+ Florida
+ Georgia
+ Hawaii
+ Idaho
+ Illinois
+ Indiana
+ Kentucky
+ Louisiana
+ Maryland
+ Michigan
+ Minnesota
+ Mississippi
+ Missouri
+ Nevada
+ New Jersey
+ North Carolina
+ Pennsylvania
+ South Carolina
+ Tennessee
+ Texas
+ Utah
+ Wisconsin
+ Wyoming
Given the recent high-profile suicides of Kate Spade, Anthony Bourdain, and singers Avicii and Kim Jonghyun, there’s been a renewed focus on mental health in the United States, the EU5 and around the world. In the United States, there’s been a precipitous spike in the number of Americans considering suicide – including alarming thoughts of “I would be better off dead” for several days, for more than half the days, or nearly every day (see figure).

There’s also been an increased awareness in one’s personal depression that’s resulted in higher rates of self-reporting, but not necessarily in higher rates of diagnosis. Furthermore, the rates of people not self-reporting but clinically depressed based on the PHQ-9 scale has declined, leading us to believe that the increased awareness is accurate.

The situation is slightly different in Europe. While self-reporting has increased, the derived population remains stable leading us to believe that new people are experiencing depression. The increasing levels of self-identification and reporting could be a result of a social acceptance of depression and even suicide. The on-going risk of high-profile suicides is that they may accelerate a perception that suicide is an accepted solution to one’s depression and kick start a new epidemic of increased suicides and suicidal tendencies.

Early diagnosis and treatment starting with discussion therapy is critical, and Patient Reported Outcomes (PRO) data can help. It’s not unusual for physicians to have patients complete the PHQ-9 while waiting to be seen, and some pharmaceutical companies are developing compounds to address suicidal tendencies and ideation.

Similarly, in the United States and the EU5, the self-reported rates for overall mental health conditions have increased, but these...
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Increases have not carried over to the diagnosis rates. Nonetheless, the projected number of prescription users for mental health has increased in both the United States and the EU5. Meanwhile, in Japan, the diagnosed and prescription rates are actually quite high versus those found in the United States and Europe.

While many people feel bouts of sadness from time to time, depression that lasts or intensifies can indicate clinical depression. In the United States and EU5, a fair amount of adults identify themselves as being diagnosed with depression. In fact, the United States and UK have the highest percentage of adults who have self-reported that they have experienced depression, with the United States registering at 28 percent and the UK registering at 26 percent.

**FIGURE: MENTAL HEALTH**

*Data for Japan is from 2008.**Depression, Any Anxiety Type, Bipolar Disorder.
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However, in Asian countries such as Japan and China, there is still a stigma associated with mental illness that prevents it from being discussed openly. The NHWS’s lower percentages for these countries for mental health may be reflective of those stigmas. For example, in China, nearly twice as many adults are symptomatic of depression, 3.5 percent, compared with those actually diagnosed, 1.9 percent.

Nonetheless, even among those who do self-report that they have depression, high rates of patients not being diagnosed can be seen in China (61 percent), Italy (45 percent), the United States (38 percent) and Spain (35 percent).

FIGURE: MARKET OPPORTUNITY SIZE

Size of adult population who self-report having depression and the size of those not diagnosed with depression.

<table>
<thead>
<tr>
<th>Country</th>
<th>Self-reported population</th>
<th>Not diagnosed population</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>60.8% 3.7%</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>10.3% 30.1%</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>16.8% 23.3%</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>45.2% 13.1%</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>4.5% 19.4%</td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>14.9% 35.0%</td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>25.8% 30.7%</td>
<td></td>
</tr>
<tr>
<td>US</td>
<td>28.4% 37.8%</td>
<td></td>
</tr>
</tbody>
</table>
FIVE PILLARS DRIVING GLOBAL HEALTH

I. AFFORDABILITY

For many years, Americans’ relationship with their health has been very top-down, with institutions and corporations calling the shots. However, individuals today are taking more accountability for their health decisions and increasingly dictating how the healthcare industry operates. This shifting dynamic, shaped by changes in society and the economy, is occurring in almost every category and is being further facilitated by major innovations in the digital space. Significant advancements in connected and mobile technologies have become dominant in our lives, as these devices have become extensions of ourselves — transforming everything from how we communicate, source information and shop, to how we monitor our health and wellbeing. This shift has created major implications and opportunities — not only for the healthcare space, but also for businesses across almost every category.

Innovations in healthcare technology, such as web-connected mobile (mHealth) devices and applications, work to put health in the hands of the individual, whether for general health and wellness or for chronic disease management. Since 2015, the use of health-related apps has increased 25%, while the use of wearable technology has increased 12.3%. Today, 21% of American adults report owning an mHealth device for the purpose of monitoring their health or fitness. There has also been a rise in telemedicine — 4.8 million U.S. adults have used telemedicine in the past year, marking a 35% increase since 2017.1

Despite the impact that mHealth continues to have in the healthcare space, there are still barriers that must be addressed by businesses seeking to leverage these opportunities.

A recent survey by Lightspeed Health revealed that, while 73% of physicians agree that integrating patient data from apps and devices into EMR/EHR systems will help them to improve the health of their patients, and 71% believe that their patients would be better equipped to maintain and improve their health through using mHealth devices, an alarming 50% of physicians believe that mHealth devices are too expensive for many of their patients and 44% maintain that the use of mHealth devices could actually mislead patients into believing that they are healthier or unhealthier than they actually are.2 Additionally, 47% of patients say that they are concerned about their health and fitness data being securely stored online, and 23% believe that web connected devices are too complicated for them to use.1 Patient awareness of mHealth devices is also a key barrier — 59% of patients with diabetes are not familiar with web-connected glucose monitoring systems that connect wirelessly with a smartphone, and 66% of patients with heart conditions are not familiar with web-connected wireless blood pressure monitors.3

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Regulation, accuracy, cost, privacy, trust, and awareness are all key challenges that businesses will have to contend with and can only be addressed through a deeper understanding of the dynamics at play. With health now firmly in the hands of the consumer, it is vital for businesses to understand user and physician attitudes towards mHealth devices — including their motivations, challenges, and how they are using (or not using) their devices — as well as relevant regulations around device safety and accuracy and what’s next on the horizon in the mHealth space. By gaining an understanding of these factors, businesses will be able to take the necessary steps to overcome common barriers and turn health tech disruptions into business opportunities.

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**FIGURE : PHYSICIAN AND PATIENT OPINIONS ON MHEALTH DEVICES**

- Agree that EMR/EHR systems will help improve patient health.
- Believe their patients would be better equipped to maintain and improve their health through using mHealth devices, but also...
- Believe that mHealth devices are too expensive for many patients, and
- Maintain that mHealth devices could mislead patients to believe they are healthier/unhealthier than they actually are.
- Heart patients not familiar with web-connected wireless blood pressure monitors.
- Diabetes patients not familiar with web-connected glucose monitoring systems
- Concerned about their health and fitness data security
- Believe that web-connected devices are too complicated

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1. Kantar Media MARS Consumer Health Survey, 2017/2018
2. Survey of 222 primary care physicians, conducted August, 2018
3. Kantar Health National Health & Wellness Survey, 2018
The good news is, while unique challenges do exist, there are steps pharmaceutical companies can take to drive growth in these still largely un-tapped markets. We consider markets of China, Brazil, India, Korea, Taiwan, and Central and Eastern Europe, to be the most important healthcare growth markets, with China and Brazil representing the most opportunity-rich nations at this time.

China, given its population and the sheer volume of patients, offers tremendous opportunity for pharma companies aiming to introduce advanced, branded medicines. The Chinese government is currently...

FIGURE: POTENTIAL GROWTH MARKET COUNTRIES

There’s been a buzz about the emerging markets for some time, but many are now transitioning into significant healthcare growth markets that offer unique and substantial opportunities for pharma companies looking to grow brands and launch new products. While the healthcare growth markets share some of the same challenges as mature healthcare markets – namely rising healthcare costs, affordable access to medicines and costly chronic conditions such as obesity and diabetes – there are pronounced differences in each of these growth countries that necessitate the need for comprehensive, market-specific knowledge to achieve success.

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First, private payers have less authority, and cost effectiveness models carry less weight in regulating the adoption of new technologies. Second, there’s strong potential for growth in the public market. Capitalizing on technology and innovation in this and the other growth markets lies in product differentiation and an unwavering commitment to conducting business with the highest levels of integrity.

For pharma to drive optimal commercial success across these healthcare growth markets, a local presence and a comprehensive understanding of local market nuances are essential for developing and executing a highly informed market access strategy. This will allow companies to address foreseen and unforeseen market barriers, secure positions on formularies, and ultimately improve the health and well-being of the people in these countries and regions.

Brazil is another strong healthcare growth market, featuring a huge private health insurance market that ranks as the second largest in the world. However, Brazil also has a public, universal healthcare system that covers most of the population. The country’s unique public-private system offers two positive opportunities for pharma companies to grow their brands and to launch new medicines.

focusing on the treatment of chronic conditions, given their significant impact on the population, with a heightened focus on oncology because of its significant impact on healthcare costs. While China is still largely a generics market, its government is attempting to accelerate its approval process for innovative medicines through policy changes. And multinational pharmaceutical companies are responding by working to differentiate their innovative medicines and defend the value of their offerings.

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INFORMATION SOURCES

**THIS REPORT IS BASED ON THESE KANTAR HEALTH DATA AND SOURCES**

+ **The National Health & Wellness Survey (NHWS)** is the largest general population study based on primary research comprising more than 3 million total survey respondents. Celebrating 20 years, NHWS is an a key source to the findings outlined in the Global Health & Wellness Report. More detail on NHWS can be found starting on page 22 of this report.

+ **PaCeR** is Kantar Health’s Patient Centered Research program that serves as the basis for NHWS, as well as our other proprietary patient-reported syndicated insights. The general population survey has broad coverage, including respondents regardless of their interaction with the healthcare system or where they are in their patient journey. This includes patients who are symptomatic and are at risk and not presenting to a healthcare professional, as well as patients who are undiagnosed or diagnosed, and patients who are untreated as well as treated with prescription and/or over-the-counter medications.

+ **Patient Opportunity Potential (POP)** is the largest consumer-reported database for uncovering where patient opportunity exists across and within healthcare markets. Covering more than 200 conditions, POP delivers unparalleled insights through interactive Tableau dashboards backed by our 20-year strong Patient Centered Research (PaCeR) platform. This dataset helps answer key questions related to diagnosis, treatment, switch and market growth potential of medicines and other pharmaceutical products.

+ **RWE Clinical** delivers better assessment tools for study feasibility, enhanced protocol development, and improved recruitment success for clinical trials. Covering more than 200 conditions and patient segments in the G7 countries and key growth markets, RWE Clinical includes interactive Tableau dashboards to help quantify the size of the population of interest, identify profiling (inclusion/exclusion) characteristics, and locate and connect populations of interest nationally and sub-regionally. Dashboard metrics feature epidemiology, demographics and characteristics, and patient heat maps.

+ **EPI Database** is the most trusted industry resource and gold standard of reliable epidemiological data. It provides unsurpassed breadth of coverage covering up to 190 indications and more than 1,000 sub-indications across 19 therapeutic areas and in 13 countries, including key growth and emerging markets. Epi Database is the trusted source for major product decisions, thoroughly researched by a team of trained epidemiologists, who use scientific literature and public and private data sources, and fully document all information sources to ensure complete transparency.
ABOUT NHWS
ABOUT THE NATIONAL HEALTH AND WELLNESS SURVEY
Kantar Health’s National Health and Wellness Survey (NHWS) is the largest global self-reported general population survey in the healthcare industry, with annual survey responses dating back to 1998 in the U.S., 2000 in Europe, 2008 in Asia and 2011 in Latin America. Since 2011, NHWS has included patients in Brazil and Russia, continuing to increase its presence in the emerging markets. NHWS provides disease-specific measures that help healthcare clients size market opportunities, measure direct and indirect costs, gain insight into disease-specific segments to optimize the value proposition and inform brand strategies.

THE STRENGTH OF NHWS LIES IN ITS BREADTH
NHWS provides unsurpassed breadth and depth of rigorous patient-reported data, with national projections to deliver prevalence information in more than 200 conditions in 10 countries, including emerging markets. NHWS includes information for patients who are diagnosed, undiagnosed yet symptomatic, untreated and for patients treated with prescription and/or over-the-counter medications.

ACCESS HAS ITS BENEFITS
NHWS provides access to data-mined patient information delivered through custom analysis and includes a First View Report covering:
+ Epidemiology of the condition
+ Patient diagnoses and treatment choices
+ Demographic and health profile of sufferers
+ Patient compliance and satisfaction
+ Utilization of healthcare resources
+ Patient attitudes and approaches to healthcare
+ Patient-reported outcomes
+ Condition-specific questions

OPPORTUNITIES TO EXTEND THE BENEFITS OF NHWS
Re-contact patients from NHWS with proprietary research
Through SELECT, the NHWS team works in partnership with clients to develop proprietary research questions that are unique to their business needs. The questions are fielded to specific patient segments within the NHWS population. The combination of NHWS with proprietary questions becomes a powerful tool to address clients’ specific business challenges.

Conduct multivariate analyses on the dataset
The expert scientific team for NHWS is experienced in applying an array of multivariate techniques on both NHWS and SELECT information through our SOLVE offering. Whether it’s identifying the key predictors of brand choice, evaluating burden of illness or quantifying cost of illness, SOLVE delivers sophisticated analyses and insights targeted to the unique business issues of individual clients.
COUNTRIES INCLUDED IN NHWS

+ Brazil
+ China
+ France
+ Germany
+ Italy
+ Japan
+ Russia
+ Spain
+ United Kingdom
+ United States

THERAPEUTIC AREAS COVERED BY NHWS

HEART OR BLOOD
+ Angina
+ Arrhythmia
+ Atherosclerosis
+ Atrial fibrillation
+ Congestive Heart Failure
+ Deep Vein Thrombosis (DVT)
+ Heart attack
+ Heart murmur
+ Hemophilia A
+ Hemophilia B
+ High blood pressure (Hypertension)
+ High cholesterol
+ Left ventricular hypertrophy (LVH)
+ Baby aspirin/Low dose aspirin users
+ Mini-Stroke/Transient Ischemia Attack (TIA)
+ Peripheral arterial disease (PAD)
+ Peripheral vascular disease (PVD)
+ Pulmonary Embolism
+ Stroke
+ Diabetes (T1D, T2D, LADA, Gestational) (SS/VS)
+ Unstable Angina/Chest pains

LIVER
+ Chronic liver disease
+ Cirrhosis

Non-Alcoholic Fatty Liver Disease (NAFLD)/Non-Alcoholic Steatohepatitis (NASH)

WOMEN’S HEALTH CONDITIONS
+ Contraceptives
+ Endometriosis
+ Fibroids
+ Pregnancy (Currently, Trying, Fertility)
+ Dysmenorrhea
+ Heavy menstrual bleeding
+ Hot flashes
+ Pre-menstrual dysphoric disorder (PMDD)
+ Pre-menstrual syndrome (PMS)

CANCER
+ Any tumor, Breast, Cervical, Colorectal, Leukemia,
+ Lymphoma
+ Metastatic solid tumor, Non-small Cell Lung, Ovarian
+ Prostate, Skin, Uterine, Other

PAIN + (VS)
+ Fibromyalgia
+ Headache, Migraine, Menstrual
+ Arthritis
+ Back problems (scoliosis, spinal stenosis, etc.), Lower back (lumbar)
+ Bladder, Pelvic/Hip
+ Broken Bones, Joint (bursitis, knee, foot), Neck Carpal Tunnel Syndrome
+ Cancer, Phantom Limb Pain
+ Dental Problems
+ Diabetic Neuropathic, Neuropathic, Post-herpetic Neuralgia
+ Pinched nerve in lower back (sciatica, lumbar radiculopathy)
+ Plantar Fasciitis
+ Spinal disk (ruptured/herniated/bulging/degenerative)
+ Shoulder Pain/Shoulder Stiffness
+ Sprains or Strains, Tendonitis
+ Surgery or Medical Procedure

INFECTION DISEASES
+ AIDS/HIV
+ Genital herpes
**THERAPEUTIC AREAS COVERED BY NHWS (CONT’D)**

<table>
<thead>
<tr>
<th>THERAPEUTIC AREA</th>
<th>CONDITIONS</th>
</tr>
</thead>
</table>
| EYE              | + Cataracts  
|                  | + Dry Eye  
|                  | + Glaucoma  
|                  | + Macular degeneration (wet or dry)                                                                   |
| INFLAMMATION/IMMUNOLOGY/CHRONIC PAIN | + Ankylosing Spondylitis (VS)  
|                  | + Gout  
|                  | + Lupus  
|                  | + Osteoarthritis  
|                  | + Osteopenia/Osteoporosis  
|                  | + Psoriatic Arthritis (VS)  
|                  | + Rheumatoid Arthritis (VS)  
|                  | + Migraine + (VS)                                                                   |
| VACCINES         | + Hep A, Hep B, Hep A/Hep B combination  
|                  | + HPV (except CN)  
|                  | + MMR  
|                  | + Meningococcal  
|                  | + Prostate Cancer (US, 5EU)  
|                  | + Pneumococcal  
|                  | + Tetanus, diphtheria, pertussis combination  
|                  | + Tetanus, diphtheria vaccine (US, 5EU, BR)  
|                  | + Varicella  
|                  | + Shingles (50+ yrs, US, FR, DE, ES, UK)  
|                  | + Ex-US vaccinations  
|                  | + Tuberculosis (5EU, CN, BR)                                                                   |
| OTHER CONDITIONS | + Alcoholism  
|                  | + Anemia  
|                  | + CAP (community-acquired pneumonia)  
|                  | + Connective tissue disease  
|                  | + Sjögren’s Syndrome  
|                  | + Smoke cessation (VS)  
|                  | + Thyroid condition  
|                  | + Weight Loss/Obesity                                                                   |
| DIGESTIVE        | + Chronic constipation + (VS)  
|                  | + Crohn's Disease (IBD)  
|                  | + Diarrhea (frequent)  
|                  | + Diverticulitis  
|                  | + GERD/acid reflux and or Heartburn +  
|                  | + Irritable bowel syndrome (IBS) +  
|                  | + Ulcerative Colitis (IBD)  
|                  | + Ulcers (active/peptic stomach or duodenal)  
| RESPIRATORY      | + Allergies (Nasal – OTC drugs)/Hay Fever  
|                  | + Asthma (VS)  
|                  | + Chronic obstructive pulmonary disease (COPD) Chronic bronchitis, Emphysema (SS/VS)  
|                  | + Cystic Fibrosis                                                                   |
| SKIN OR NAIL     | + Acne  
|                  | + Atopic Dermatitis, Dermatitis, Eczema (VS)  
|                  | + Chronic Hives  
|                  | + Fungal infections of the skin or Athlete’s foot  
|                  | + Hidradenitis Suppurativa  
|                  | + Psoriasis + (VS)  
|                  | + Rosacea  
|                  | + Shingles  
|                  | + Skin ulcers/cellulitis                                                                   |
THERAPEUTIC AREAS COVERED BY NHWS (CONT’D)

NEUROLOGICAL
+ Dementia
+ Epilepsy
+ Hemiplegia
+ Multiple Sclerosis (VS)
+ Muscular Dystrophy
+ Parkinson’s disease
+ Restless Legs Syndrome/Willis Ekborn Disease (WED)

UROLOGY OR KIDNEY CONDITIONS
+ BPH (benign prostatic hyperplasia)
+ Chronic kidney disease
+ Moderate or severe renal/kidney disease
+ Overactive Bladder Dry Wet / Stress Urinary Incontinence (SS/Vs)
+ Urinary tract infection
+ Yeast infection

MEN’S HEALTH CONDITIONS
+ Low testosterone
+ Pre-mature ejaculation
+ Erectile Dysfunction

SLEEP CONDITIONS (VS)
+ Insomnia, Sleep difficulties (other than Insomnia, Narcolepsy or Sleep Apnea)
+ Narcolepsy, Sleep Apnea

1 *PaCeR = Patient-Centered Research Platform
2 +OTC drug list, ^ Steps to prevent, Severity captured only in condition modules SS/Vs = symptom/validated scale
APPENDIX
DEFINITIONS

SF-36v2 QUALITY OF LIFE SCALE
The SF-36v2 is a series of 36 validated questions that are scored to provide an index of respondents’ mental health, physical health and overall quality of life. The individual components of the SF-36v2 scale include physical functioning, role limitations due to physical health problems, bodily pain, general health, vitality, social functioning and role limitations due to emotional problems and mental health.

In the National Health and Wellness Survey, SF-36v2 scores for analysis groups are compared to the general population and therapeutic category average to assess the physical and mental well-being of patients in each group.

WORK PRODUCTIVITY ACTIVITY AND IMPAIRMENT SCALE
The WPAI scale is a validated scale used to measure lost work productivity and impairment in daily activities. The WPAI yields four types of scores:

1. Absenteeism (work time missed)
2. Presenteeism (impairment at work/reduced on-the-job effectiveness)
3. Work productivity loss (overall work impairment/absenteeism plus presenteeism)
4. Activity impairment

WPAI outcomes are expressed as impairment percentages, with higher numbers indicating greater impairment and less productivity.

ATTITUDES
Respondents to the National Health and Wellness Survey were asked to rate their attitudes on healthcare in general, advertising campaigns and alternative care on a five-point scale (Strongly Disagree, Disagree, Neither Disagree nor Agree, Agree, Strongly Agree). Patients were considered to express a particular attitude if they chose Agree or Strongly Agree.

IRB APPROVAL AND PUBLICATION CITATION
The National Health and Wellness Survey is Institutional Review Board (IRB) approved to adhere to the abstract and publication submission criteria of peer-reviewed journals and medical conferences. The following citation should be used for publication submissions using the National Health and Wellness Survey.

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Kantar Health is a leading global healthcare consulting firm and trusted advisor to many of the world’s leading pharmaceutical, biotech and medical device and diagnostic companies. It combines evidence-based research capabilities with deep scientific, therapeutic and clinical knowledge, commercial development know-how, and brand and marketing expertise to help clients evaluate opportunities, launch products and maintain brand and market leadership. Our advisory services span three areas critical to bringing new medicines and pharmaceutical products to market – commercial development, clinical strategies and marketing effectiveness.