DATA SUMMARY

The National Disease and Therapeutic Index™ (NDTI) is a monthly audit of office-based physicians that provides information regarding patterns and treatment of disease in the continental United States. For each patient seen during a consecutive two-day period each calendar quarter, participating physicians complete an encounter form that includes information about diagnoses and drug therapies. Each record of a drug therapy within the NDTI is linked to a specific six-digit taxonomic code capturing diagnostic information similar to the International Classification of Diseases 9th Revision (ICD-9). In addition to detailed characteristics regarding therapies prescribed, NDTI also contains information about patients (e.g., demographics, location of visit, insurance type, basic health statistics), and physicians (e.g., specialty, age, region). Although data is audited monthly, quarterly data is suggested for analyses given the more stable estimates provided by such observations.

DATA SAMPLE

The American Medical Association and the American Osteopathic Association provide a master list of physicians from which IMS selects a representative sample stratified by geographic region and specialty.

Universe

NDTI estimates in 2013 are based on a universe of over 500,000 physicians in 30 specialty groups. The NDTI sample is drawn from office based physicians in private practice. The sample includes specialties involved in direct office-based care. Specialties that have contact with a patient only after the patient has been seen and diagnosed by another specialty (e.g., pathology, anesthesiology, and nuclear medicine) are not included.

Sample

NDTI uses a two-stage stratified cluster, randomly drawn. In the first stage, NDTI randomly selects physicians from the described universe of physicians. The final NDTI sample consists of a nationally representative sample of over 4,000 office-based physicians in the United States.

During the second stage, NDTI randomly assigns a start day to report data for two consecutive workdays per a quarter, thus individual physicians do not collect information every month. Reporting days are randomly assigned to ensure that all workdays in a report period are covered. Saturdays, Sundays and holidays are assigned as reporting days to physicians who practice on those days. In 2013, the NDTI sample design called for a total of 1,380 physicians recorded data for 2,760 workdays each month. Similarly, a total of 4,140 physicians recorded data for 8,280 workdays each quarter.
**SIMILAR SOURCES**

Alternative sources of similar data and advantages/disadvantages of NDTI

The NDTI is an audit of office-based prescribing, and as such, yields different data than that provided by analysis of prescription claims. For example, the prescription applications reflected in NDTI represent physician uses, rather than actual prescriptions filled or renewed. The most similar data source to the NDTI is the National Ambulatory Medical Care Survey (NAMCS), which is a publicly available audit of office-based providers designed by the National Center for Health Statistics at the Centers for Disease Control and Prevention. However, unlike NAMCS, the NDTI has a larger sample frame, links each therapy with a specific clinical indication, and has a shorter lag time than NAMCS of approximately one calendar quarter. At least two publications have compared the NDTI with NAMCS:


**KEY DATA ELEMENTS**

Although the NDTI produces individual-level data, data generally available for analyses are stratified aggregated data (e.g., use of a given therapy stratified by diagnosis stratified by patient race stratified by insurance type).

<table>
<thead>
<tr>
<th>Category</th>
<th>Data Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td>• Specialty&lt;br&gt;• Age/gender&lt;br&gt;• City size of office location&lt;br&gt;• Geographic region</td>
</tr>
<tr>
<td>Patient</td>
<td>• Age/gender/race&lt;br&gt;• Basic health information (smoker/non-smoker, blood pressure, cholesterol level, triglyceride level)&lt;br&gt;• Visit (location, times since last visit)&lt;br&gt;• Insurance type</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>• Diagnosis codes&lt;br&gt;• Underlying and concomitant conditions&lt;br&gt;• Referral or non-referral status&lt;br&gt;• Severity of condition&lt;br&gt;• Frequency of visits/time seen since last visit&lt;br&gt;• Whether visit is post-operative or whether procedures performed during visit</td>
</tr>
<tr>
<td>Product</td>
<td>• Anatomical classification/ USC drug classification code&lt;br&gt;• Form/strength&lt;br&gt;• Concomitant products&lt;br&gt;• Prescription information (drug action(s), days of therapy, prescribed dosage, start/continue status, quantity, strength, substitution)&lt;br&gt;• Manufacturer/corporation/launch date</td>
</tr>
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**PUBLICATIONS USING DATA SOURCE**

The NDTI is particularly valuable for addressing research questions that focus on office-based prescribing. Below are examples of recently published works using the National
Disease and Therapeutic Index. Additional examples of publications are available in the HSRN Annotated Bibliography available [here](#).


   *The authors used the IMS National Disease and Therapeutic Index™ (NDTI) to estimate the number of monthly visits in which influenza was diagnosed and the proportion of visits in which an antiviral was prescribed for influenza between October 2006 and March 2010. The authors found a surge of influenza visits and antiviral prescribing attributable to the 2009 H1N1 influenza pandemic from October to December 2009, though there was no change in the overall propensity to prescribe antivirals in ambulatory settings compared with previous years.*


   *The authors used the IMS National Disease and Therapeutic Index™ (NDTI) to evaluate whether patterns of congestive heart failure medications have adopted evidence-based therapies. They found some recommended therapies to begin to decline in the mid-2000s while others reached a plateau in this same time frame.*


   *The authors used the National Disease and Therapeutic Index™ (NDTI) to evaluate the impact of the 2005 FDA black box warning regarding the risks of atypical anti-psychotic use among elderly patients with dementia on the use of these agents. They found that the FDA advisory was associated with a 2% decrease in the use of atypical antipsychotics overall and a 19% decrease in use among elderly patients with dementia.*