

## Using data and analytics to make a difference



The Optum<sup>®</sup> Life Sciences Health Economics and Outcomes Research (HEOR) business is a team of more than 85 doctoral and master's level trained researchers, econometricians, statisticians and programmers. We conduct scientific research using Optum industry-leading data assets to demonstrate the clinical and economic value of pharmaceutical products and medical devices.

Unlike clinical trials, which are intended to demonstrate **efficacy** (does the medication interrupt the disease pathway as intended and what is the appropriate dose), our research is intended to demonstrate **effectiveness** (does the medication work in a real-world setting). In a real-world setting, patients aren't as well-controlled and homogeneous as they are in a clinical trial. Patients don't always take their medication as instructed, some patients eat a healthy diet and exercise regularly while some patients do not, and some patients suffer from multiple diseases while others do not. Our research helps to answer questions about what works best for whom under what circumstances and at what cost.

Our clients come to us when they want to learn more about:

- 1) **Unmet need** — where are there gaps in care that their product could help address?
- 2) **Treatment patterns** — how are their medications currently being used to treat patients? Which types of physicians are prescribing their medications and to which types of patients?
- 3) **Adherence, discontinuation and switching** — do patients take their medication appropriately? What causes patients to stop taking their medication? What leads patients to switch from one medication to another?
- 4) **Comparative effectiveness** — how do patients using their product compare with patients using their competitor's product? Which medication leads to better clinical outcomes? Which medication leads to a reduction in health care utilization and costs?

### Making a difference for payers and life sciences companies

In 2016, HEOR was hired by a pharmaceutical company to examine post-fracture treatment rates among patients with osteoporosis. Our client cared about this issue because they were about to launch a new injectable treatment for osteoporosis and wanted to facilitate improved and appropriate use of care. Our results showed there was room for improvement in post-fracture treatment rates among United Healthcare (UHC) members.

We knew UHC had a vested interest in post-fracture treatment rates for osteoporosis because there is a Star rating measure associated with it and UHC is committed to driving high-quality care delivery. So we worked with experts from UHC and OptumCare to design and implement a patient and provider engagement program. This ongoing program involves telephonic and mail outreach, as well as in-home heel scans. HEOR will analyze program and administrative claims data to assess the impact of the program on patient outcomes and the Star measure. A great example of how research and data can be used to drive the design of impactful programs.

### Making a difference for public health

The HEOR team also engages in research that informs national debates on important health issues. Our HEOR team was the analytic engine for a large study conducted on behalf of the National Institutes of Mental Health to examine the association between the MMR vaccine and autism. The Lewin Group, our Optum colleagues, were the prime researchers for the study. Our results showed no association between MMR vaccine and autism. The results were published in *JAMA* and were subsequently reported by the Associated Press, CNN, *TIME*, *The NY Times*, NPR, *The Wall Street Journal* and others).

### Making a difference across the health care system

Our greatest differentiator in the marketplace is our association with Optum. Optum touches all parts of the health care system. This means our research can be used to drive meaningful change anywhere in the delivery of health care. We are driven to conduct research that creates actionable results.

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