

# Veracity quality validation

## Overview

## Included Health's approach to quality

At Included Health, our mission is to raise the standard of healthcare for everyone, everywhere. Our investments in data and talent allow us to measure physician quality at the individual physician level across every geography and medical specialty, including primary care and all types of surgical and non-surgical specialties.

We measure individual provider quality along dimensions of clinical quality (safety and effectiveness) and cost effectiveness (efficiency and price). For example, primary care physicians are recommended based on factors like their track record of prescribing pain medications appropriately and ensuring patients receive preventive screening, as well as the degree to which they develop longitudinal relationships with new patients and refer out to high-quality specialists. For specialists, we rely on a combination of condition and procedure-specific quality measures—for example, spine surgeons are evaluated on surgical outcomes, the degree to which they favor conservative therapy before surgery, and whether they utilize imaging appropriately, among other factors.

### Veracity Healthcare analytics

Veracity is a specialized healthcare analytics consultancy run by Niteesh Choudhry, a Harvard Medical School professor and a leading researcher on health care quality.

We engaged Veracity to conduct a comprehensive review of our approach to assessing physician quality. They conducted a two-phase study over several months: first, they graded the validity of all of the quality metrics we've modeled; second, they assessed the metrics' effectiveness by measuring the relationship between our PCP quality scores and the care that the physician delivers.



**Niteesh K. Choudhry, M.D., Ph.D**

is on the faculty at Harvard Medical School and practices as a hospitalist at Brigham and Women's hospital.



**Joshua J Gagne, PharmD, ScD**

is on the faculty at the Harvard School of Public Health.

### Phase I: Metrics Validation

Grade the validity of all the quality metrics we use in our models

### Phase II: Empirical Validation

Validate the relationship between Included Health quality rankings and patient outcomes

## Key results

Results from the two-phase study revealed that our approach to physician quality is grounded in clinical best practices, and that physicians defined as high-quality have delivered demonstrably better outcomes for patients.

**In the Phase I study**, Veracity found that “virtually all of the metrics used by Included Health to evaluate physician quality have clinical face validity and empirical evidence supporting their relationship with health care quality”. More specifically:

- **100%** of our quality measurement metrics have clinical face validity.
- **92%** of our metrics are supported by published studies.
- **95%** of our measure specifications were deemed appropriate.

**In the Phase II study**, primary care physicians ranked in the top 10% by Included Health provided higher quality care than other physicians for all of the metrics evaluated. The magnitude of these differences was clinically meaningful and statistically significant in all cases. Compared to patients seeing PCPs in the bottom 10%, patients seeing PCPs in the top 10% were:

- **30–40% more likely to receive appropriate cancer screenings** for colorectal, cervical, and breast cancers.
- **30–70% less likely to be prescribed high-risk medications** including high-dose opioids, high-dose benzodiazepines, concurrent opioids and benzodiazepines, butalbital for headache, and carisoprodol for back pain.

Furthermore, compared to PCPs in the bottom 10%, PCPs in the top 10% were:

- **>90% less likely to be sanctioned in the future** by their state medical board.

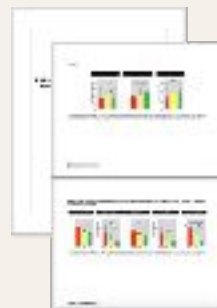
### Phase I: Metrics Validation



“In summary, virtually all of the metrics used by Included Health to evaluate physician quality have clinical face validity and empirical evidence supporting their relationship with health care quality. Most have been well adapted.”

—**Professor Niteesh K. Choudhry**,  
Harvard Medical School

### Phase II: Empirical Validation



“In summary, we found that top 10% primary care physicians provided higher quality care than other physicians for all of the metrics we evaluated. The magnitude of these differences was clinically meaningful and statistically significant in all cases.”

—**Professor Niteesh K. Choudhry**,  
Harvard Medical School

