## **Pharmaceutical "Patent Thickets"**

Separating Myth from Reality

**APPROVAL** Medicines are not patented; inventions are. **BIOPHARMA R&D** There is no treatment for a disease, or a treatment exists but requires improvement. **UNMET NEED TECHNICAL PROBLEM,** PATENTABLE **NEW SOLUTION,** The organization has a scientific INVENTION **PATIENT VALUE** hypothesis that could address PATENTABLE unmet needs. INVENTION **SCIENCE** Biopharma companies innovate to solve problems in ways that deliver patient value. This generates patentable inventions along the way. The more challenges innovators solve, the more patents there may be in relation to a product. **MARKET CONSIDERATIONS** If the R&D project is successful **TECHNICAL PROBLEM** in delivering a new or better PATENTABLE **NEW SOLUTION,** treatment for patients, the INVENTION PATIENT VALUE organization can recoup R&D costs in the marketplace.

MARKETING

Innovative companies are not making R&D decisions based on getting patents. Decisions are made based on unmet need, science, and market considerations.

In the USPTO's ranking of patent-intensive industries, pharmaceuticals come in 9th place, behind financial services, computer hardware, semiconductors, and software.

Biopharmaceutical companies obtain approximately 0.05 patents per million R&D dollars, compared to roughly 0.5 patents per million for innovative companies in other sectors - a tenfold difference.

The patent intensity "score" for biopharma (67.77) - a measure of patents as a factor of R&D investment - is roughly one-third that of computer hardware (191.35) and semiconductors (184.01).

What people experience as a medicine or drug "product" is often a bundle of inventions.

A medicine does not appear in a single "Eureka!" moment. It emerges after a long process as scientists solve problems.

Biopharma innovators continue to invest in R&D and solve challenges even after they have identified or created the molecule. And they continue to do so even after the product is approved.

Innovation post-marketing approval delivers value for patients.

Generic entry is not impeded by multiple patents on a medicine.

Limiting the number of patents that innovators can obtain or assert would trade away future health benefits without any meaningful impact on competition or pricing.

Policymakers should ensure that the patent system functions as intended to promote innovation and progress in medicine for the benefit of patients.

