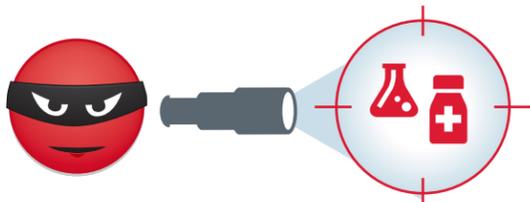


Prescription for Cyber Espionage

The typical drug costs \$5 billion to develop and takes 10-15 years to bring to market.^{1,2} This makes an attractive target for threat actors. Based on observations from FireEye, nation-state threat groups have targeted the industry since 2010, and they are interested in more than drug formulas.



Threat Actors With an Eye on Pharma?

FireEye believes that nation-state threat groups, including groups operating out of China, seek technologies, processes, and expertise from the pharmaceutical industry in part for financial gain as well as for national economic growth.

Mission & Motivation

Potential motivations for Chinese-based threat actors include...



Financial Gain

China is the third largest market in the world for drugs with revenue expected to grow to \$16 billion by 2015.³



Healthcare

New R&D activity focuses on diseases unique to the Asian market which could help China support its rapidly growing elderly population.⁴



Economic Growth

The pharmaceutical industry is listed as one of the strategic industries in China's 12th Five Year Plan.³

Opportunities for Entry

The tactics adversaries use to compromise pharmaceutical organizations is consistent with what FireEye observes in other industries. However, several unique characteristics present specific opportunities for threat actors to gain access to their targets.



Cloud Data

New compliance regulations are driving companies to store more data in the cloud, which presents another attack vector for adversaries.



M&A Activity

In 2013, there were a total of 281 pharma M&A deals.⁵ Attackers that have compromised one entity often use that access to compromise newly merged entities.



Mobile Salesforce

A large worldwide sales team creates opportunities for adversaries to compromise employees when they travel.



Suppliers & Business Partners

Expansion into emerging markets for new business and for research partnerships means threat actors can increasingly gain access via outsourced service providers.⁶



WHAT THEY TAKE

- | | | | |
|------------------|-------------------|-----------------|------------------------|
| Hiring Data | Lab Results | Org Charts | R&D Processes |
| Research Studies | Test Reports | Cell Cultures | Conference Proceedings |
| | Safety Procedures | Meeting Minutes | |

FireEye has witnessed threat actors expand the scope of data they steal, which suggests they are keen to acquire data about how businesses operate, not just about how they make their products.

\$14B

The United Kingdom Office of Cyber Security and Information Assurance estimates the pharmaceutical industry has lost \$14 billion through IP cyber theft.⁵

¹ Matthew Herper, "The Cost Of Creating A New Drug Now \$5 Billion, Pushing Big Pharma To Change," Forbes, August 3, 2013

² "2014 Pharmaceutical Industry Profile," Pharmaceutical Research and Manufacturers of America

³ Chinese Communist Party, "Chinese People's Republic of China National Economic and Societal Development 12th Five-Year Plan Outline", National Development and Reform Commission (PRC),

⁴ The next phase: Opportunities in China's pharmaceuticals market," Deloitte Touche Tohmatsu CPA Ltd.

⁵ "Global Pharma, Medical & Biotech Trend Report: 2013".

⁶ Davies J. Nicola, "Cybercrime in the pharmaceutical industry: a booming business," 10 July 2012, Pharmaceutical Technology.com