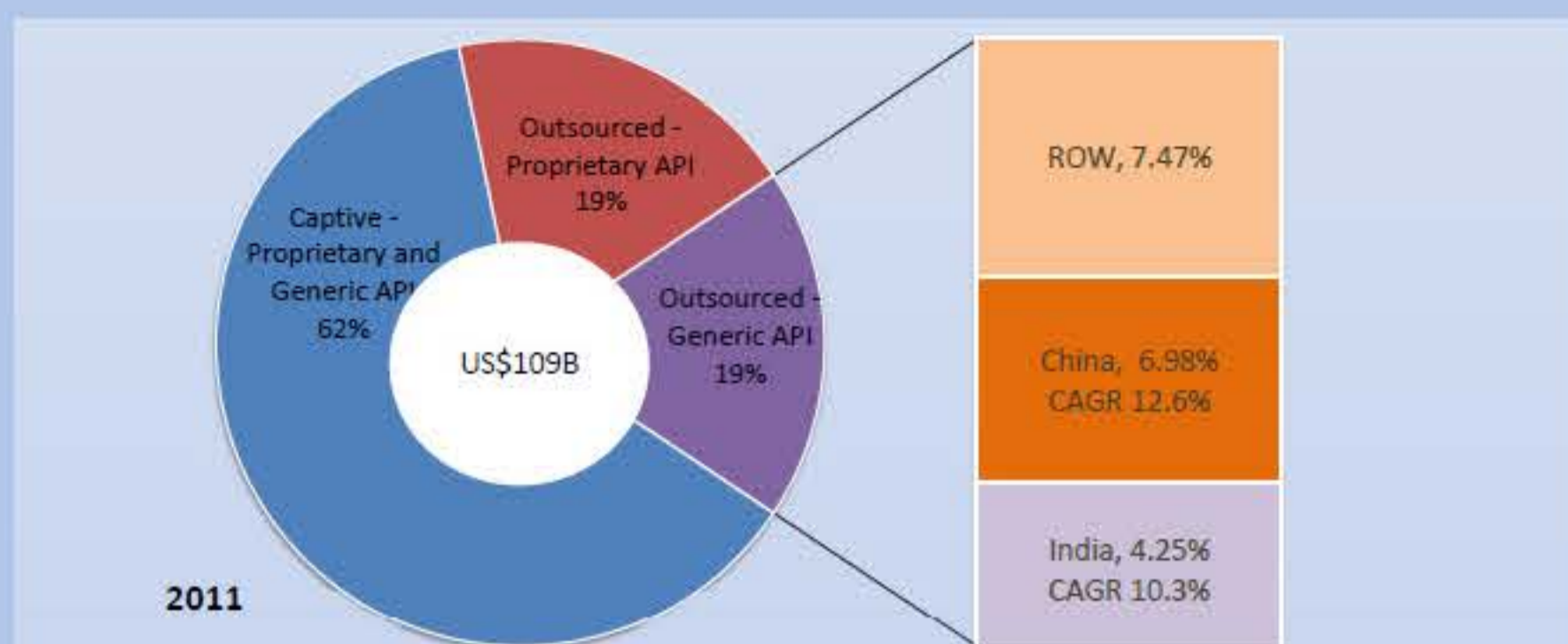


HPAPI Global Market Opportunity

Current Generic APIs

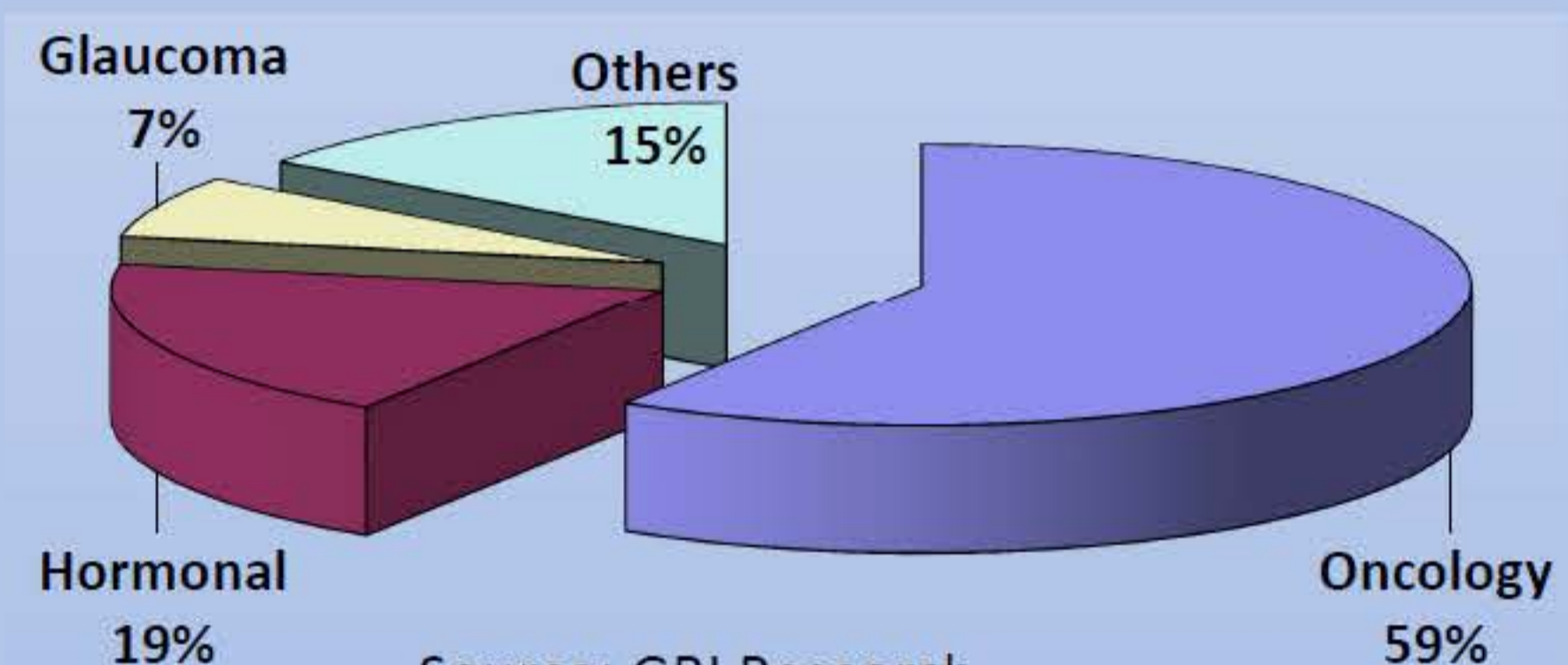
- Global API market valued at US \$109 Billion in 2011- growing at 7.9% CAGR next 5 years
- 2011 Global API production- 62.4% in-house pharmaceutical companies, 37.6% CMO outsourced



Source: Chemical Pharmaceutical Generic Association

Shift to High-Potency APIs

- 15% growth shift towards high potency APIs(HPAPI) manufacturing -CMO/CRAMS capability expansion & differentiation from generic APIs



Source: GBI Research

- HPAPI market - \$8.9 B in 2011, 80% in N. America/ Europe USA(45.6%)/Europe (35%) (2009), Asia at 9.35% only-but oncology market growing at 20%

- Oncology cytotoxic therapeutics, hormones prostaglandins.

WESTERN CMO/CRAMS (for now?)

- USA-SAFC \$75 Mil Wisconsin, new Israel bacterial HPAPIs
- France-Novasep US\$12.7 mil HPAPI plant- Le Mans-50% Capacity increase

India/China & Future HPAPI

- Asia HPAPIs growing 15.4 % between 2009 & 2015.
- Notable Asian CMO/CRAMS -Aptuit, Hovione, Eisai, Asymchem, Arch Pharmalabs, Nicholas Piramal, Ranbaxy, Dr. Reddy's
- **West --> India Tech-Transfer-M&A:**
 - India leads with its first mover advantage from past generic exports business with the West, US largest API (32%) global market
 - but India 2nd only to China's larger share of global API market (at 18%) with India at 13% share



- **USA Asymchem's** China HPAPI facility (Roche Most Valuable Partner Award):



But:

- Escalating Labor Costs, increasing Environmental and Quality Regulatory oversight in China/India will DRIVE COST UP !
- Plus Productivity from skilled labor is 3x higher in the West than say India.