

## The Impact of Open Innovation on (Nano) Healthcare R & D in Europe

Mike Eaton  
Chair of Nanopharmaceuticals  
ETP Nanomedicine



## The Pharmaceutical Industry in Europe

- Provides new drugs for patients
- Supports the economy of W. Europe
- Major exporter (trade balance €28bn - 2007)
- Major employer of scientists (636,000 - 2007)
- Supporter of the science base

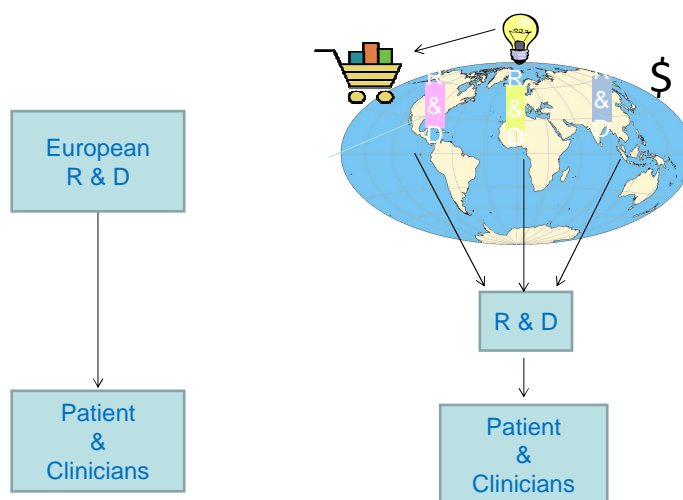


## Why has the *status quo* changed?

- Spiralling cost of new drug R & D
- Patent life too short to get a return
- Reimbursement → More risky novel targets
- Rise of the generics sector 10% to 60%+
- Emergence of Far East science base
  - lower costs, new research sites
  - access to growing market v European market
- Cost of European in-house R & D is greater than the global in-licensing cost? Loss of more research sites?



## Europe must follow the US model



## How is Europe adapting to Open Innovation?

True global market place for translatable technology.

- Global outsourcing is leading to:
  - Loss of experience and knowledge
  - Loss of jobs
  - Negative impact on science base
  - But cheaper new drugs for all



## Nanomedicine - Impact of European Culture

- Nanomedicine is emerging at a time of change and will be based in academia due to open innovation
- Historically the European Pharma industry has not needed to engage with academia
- European academics have poor knowledge on how to commercialise their discoveries. SMEs reflect this situation.
- Lack of knowledge of how to move science from the lab to the clinic is seriously handicapping the emergence of nano-based therapeutics



## Experience of ETP Nanomedicine

- Lack of translatability of publicly funded European & National applied healthcare research is a far more important issue than the level of funding!
- There is an opportunity to capture the specialised knowledge being lost by major Pharma, but there is no strategy to do so, no tools and no financial motivation



## European Academic Culture

- Universities' strategic science management are often ineffective – where they exist. Can be in conflict with Universities' Charters guaranteeing academic freedom
- Applied research assessment and impact is guided by academic criteria. Helping patients is a minor component.
- Industry is not attempting to control academic freedom, but explaining the regulatory requirements of applied healthcare research.
- Industry needs truly high level innovation to compete.



## Translation skills need to be acquired in EC

- Teach translation skills to students and lecturers.
- Improve industrial peer review of applied research proposals. Reimburse.
- Reward institutes for industrial involvement.  
Empower industrial liaison offices.
- Fund projects to use external translational expertise.
- A better two-way dialogue between academia and industry. What is best European practice?
- Understand patient and industrial needs
  - US top academics do!
- There is a global land-grab of areas vacated by industry – opportunity!



## Summary

- Open Innovation is radically changing Pharma and will impact SMEs and academia
- Europe must act now to improve its translational activities
- This will require new structures and processes of industry/academic collaboration and public funding
- Only the most adaptable industrial and academic sectors will survive!

