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## Public Dollars to Real Dollars – is it Possible ?

Dr Dean Moss  
General Manager, Life Sciences  
UniQuest Pty Ltd


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## Federal Government Research Funding in Australia

- **Australian Research Council (ARC)**  
– \$614 million
- **CSIRO**  
– \$1,045 million
- **NHMRC**  
– \$659 million
- **Total Grant Funding**  
– \$2,318 billion
- **Health and Hospital Fund**  
– \$10 billion

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## What is Commercialisation ?

- Process of managing the transfer of research outcomes to broad market application

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## Why Commercialise Research ?

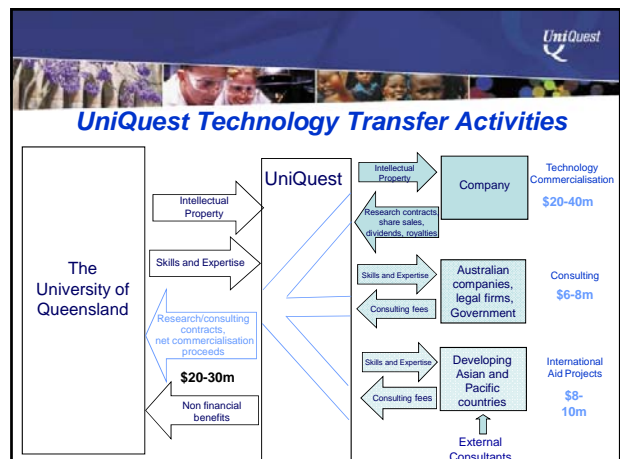
- Translation of research ideas and concepts into products that drive innovation and technological uptake into society
- For public good
- Heal, feed and fuel
- Personal economic gain

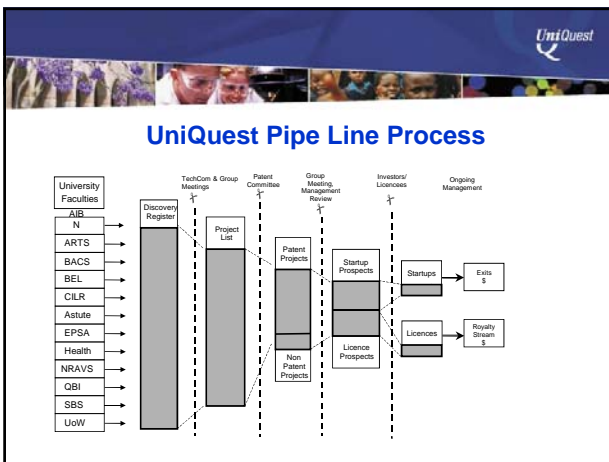
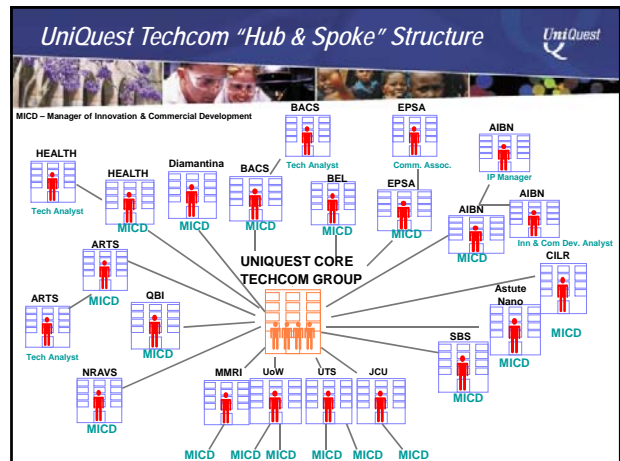
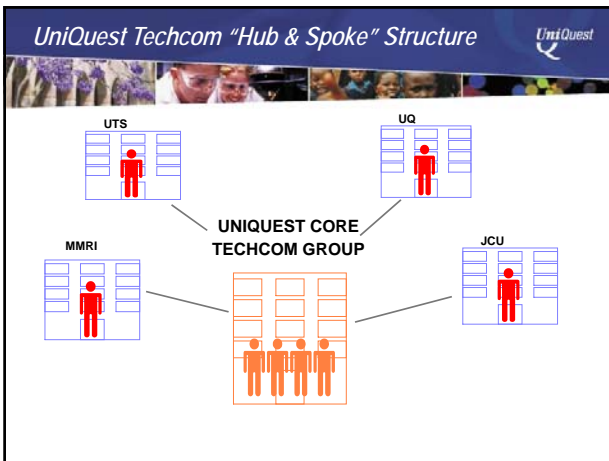
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## UniQuest Pty Limited

- 1,400 patents and patent applications
- \$75 million revenue in 2007
- 85 staff
- Over 50 technology spin-offs and startups
- Over \$140 million in research contracts back to UQ
- 300-400 domestic consultancies per year
- 200 international aid projects completed in 40 countries





### UQ Case Study – HPV vaccine

- Cervical cancer is a leading cause of cancer in women
- Caused by the Human Papilloma Virus (HPV)
- Virus like particle based vaccine against HPV invented by UQ researcher Professor Ian Frazer and Dr Jan Zhou in 1990

- ### HPV Commercialisation Milestones
- First patented by UniQuest in 1991
  - Licenced by UniQuest to CSL in 1995  
Sub-licensed to Merck in 1995
  - UniQuest engagement in the 6 way patent interference from 2000 – 2005
  - Patent interference settled with GSK, Merck and CSL in 2005
  - FDA approval June 2006
  - First commercial sale Q2 2006
  - Approved for use in 123 countries, including the US, Canada, Australia, UK, Sweden, Germany, Italy, and France (*Medical News Today*)
  - Sales to date of \$>2 billion (*Datamonitor*)
  - Sales expected to exceed \$4.5 billion / year (*Merrill Lynch*)
  - Donated to not-for-profit organisations for distribution to developing countries



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### HPV Vaccine Outcomes

- Over 22 million vaccinations administered to date
- Potential to save 250,000 women's lives annually (*Alliance for Cervical Cancer Prevention*)
  - 466,000 new cases / year (*Alliance for Cervical Cancer Prevention*)
- Massive economic saving to global healthcare
  - Screening for, and treatment and follow up of HPV related diseases costs the US health system ~\$5 billion / year (*BNet Australia*)

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### Proposed Site of the PAH/UQ Smart Therapies Development Centre

Labels in image: BPA, TRI, PAGE, PAH main building, CICR (PAH R-Wing), Proposed Site

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### Triple P

- Multi-layered offering of products and services to assist parents in parenting
  - Training and accreditation of practitioners
  - Parent tip sheets
  - Parent workbooks
  - Practitioner manuals
  - Practitioner teaching aids (eg overhead transparencies, desktop flip chart)
  - Videos
  - Media (eg newspaper columns, radio announcements, television)

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### Triple P

Resources shown: Driving Mum And Dad Mad, beyondblue, Positive Parenting, A System

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### Triple P

- Available in 14 countries and growing
- 15,000+ practitioners trained
- Over one million parents have been involved in program
- 43 controlled evaluation trials
- Triple P International employing 15 people and growing

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### Triple P

Triple P & UniQuest:

- Recognised opportunity to package traditional consultancy
- Licensed to publisher / distributor
- Manage ongoing transfer of product being developed at UQ



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- **Intelligent impedance devices**
- Focused on becoming global leader of non-invasive medical devices for measuring:
  - Lymphoedema
  - Body hydration
  - Body composition
- First bioimpedance technology to receive FDA clearance for the clinical assessment of unilateral arm lymphoedema




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- BIS technology measures the extra-cellular fluid of limbs directly
- Measures at both low and high frequency, improving accuracy and test versatility
- Lead by The University of Queensland Researcher Dr Leigh Ward
  - Over 10 years of peer review publications demonstrating early detection, clinical assessment and risk assessment of lymphoedema
- Listed ASX Oct 2007 (ASX: IPD)
- Raised >\$38 million to date





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- **Commercialising new treatments for pain management and CNS disorders**
- Lead pain therapeutic currently in phase III clinical trials
  - US opioid sales in 2007 >\$8.4 billion
- Strong pipeline of late and early stage candidates, including re-engineered marketed drugs with enhanced and/or expanded clinical and commercial value

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- Commercialising research from The University of Queensland
  - School of Molecular and Microbial Sciences Professors John de Jersey, Maree Smith, Martin Lavin and Paul Masci.
- \$15 million investment with \$250,000 grant
- Listed on ASX May 2007 (ASX: QRX) and raised \$50 million on \$100 million pre money valuation. Largest float (\$150 million) for Australian University start-up.
- UQ-QRx Pharma awarded ARC linkage Grant for Venomics project

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**Conclusions**

- The commercialisation of Australian biomedical research has produced an economic benefit of \$3 billion dollars from 1.5% of GDP spent on research
- Commercialisation can go hand in hand with achieving public good