

CELLS to SOCIETY: SCIENCE to PRODUCTS

Arthur Garson, Jr., MD, MPH
Dean
School of Medicine
Vice President
University of Virginia



University of Virginia: the faculty

- It's all about the faculty
- May not a lot of new \$ from Tech transfer
 - \$3m to company (50% to University)
 - \$30m to University grants
- Retention and recruitment
 - Service to our faculty
- Use of “trollers” to facilitate the process



The fourth mission: “Technology transfer”

- Means: “transfer elsewhere”
- Academic mission is research – NOT development
- Handoff potentially after proof of concept



Relationships with Industry

- Existing large industry
 - Right of first refusal, future IP
 - Does this constrain the research?
 - Certainly constrains if publication restraint
 - Fund program for 5 years, and
 - Review at 3 years and determine if all working as thought
 - If not, have 2 years to either change the relationship or find different funding
- Need “relationship managers”



Relationships with Industry

- Start-ups / licenses by faculty
 - “Troller” continues
 - Precludes antagonism and resentment on the part of the faculty, when the negotiation phase is reached for licensing back the IP
 - If new company, recognize that a CEO is needed – the faculty cannot/should not attempt to serve this role
 - Different “business” rules



Relationships with Industry

- Doing industry-initiated research
 - Clinical trials model: as long as we add science and protocol design
 - Same rules for basic science
- Doing self-initiated research with any self-interest (including self-initiated)
 - Must have a “surrogate” to talk to patients and to do data analysis



Advances in Medical Care 10 years

1. Personalized prediction:
 - Will be able to determine a specific patient's risk of colon cancer
2. Personalized treatment:
 - Cancer— Individual's specific cancer responds best to a specific therapy;
 - Infections – which drug works best in which patient
3. Personalized prevention
 - Gene therapy will initially require intense monitoring and ongoing treatment
 - In 20 years, perhaps true prevention, e.g. change the genetic makeup once and the disease is “absent,” e.g. cystic fibrosis



Advances in Medical Care 10 years

4. Better technology in diagnostic tests
 - Noninvasive imaging for coronary artery disease or colon cancer
 - Improved instruments allowing non-invasive treatment
 - Focused ultrasound for cancer
 - Less invasive treatment – e.g. placement of heart valves with a catheter



The next 10 years

- New technology:
 - Trade increased effectiveness for
 - increased cost
 - Increased workforce demands

