



## Universities and Access to Medicines: Issues to Highlight for the World Health Organization Intergovernmental Working Group on Public Health, Innovation and Intellectual Property

*April 2008*

For More Information Contact: Ethan Guillen, [ethan.guillen@essentialmedicine.org](mailto:ethan.guillen@essentialmedicine.org) or Sara Crager at [sara.crager@yale.edu](mailto:sara.crager@yale.edu).

Universities Allied for Essential Medicines (UAEM) is a coalition of hundreds of students at over 40 top research institutions across the United States, Canada, and the United Kingdom. We seek to (1) ensure every health-related innovation developed in campus laboratories is made available to developing countries at the lowest possible cost, and (2) increase the amount and impact of university research on neglected diseases.

### Recommendations to Delegates at the Current Negotiations

Universities have a critical role to play in positively impacting global health through bridging the access to medicines and neglected disease research gaps experienced by developing countries (see page two for more on the role of universities). In this context, we would urge delegates to the IGWG to consider the following:

- **Strengthen and expand elements 2.2(b) and 2.4(c)** - The screening of chemical compound libraries for activity against various disease targets is an important component of the drug discovery process. While traditionally this has been the exclusive province of large pharmaceutical companies, a rapidly increasing number of universities are creating 'chemical genomics' centers that use more innovative techniques to screen their own large compound libraries for activity against various diseases. Given the significance of these tools for drug research, and that access to sophisticated screening techniques is critical to the effective use of compound libraries, UAEM urges delegates to maintain and strengthen the language of elements 2.2(b) and 2.4(c) and to ensure inclusion of language addressing access to screening facilities as well as compound libraries. (See page 4)
- **Strengthen and maintain elements 2.4(d), 4.3(b) and (c)** - The professional association of university technology transfer managers and scores of universities have recognized the need for novel technology transfer mechanisms to ensure access to the fruits of university research in the developing world (see below). Given widespread acceptance of this responsibility, UAEM urges delegates to maintain and strengthen language in sub-elements 2.4(d) and all of element 4.3(b) and (c) of the Global Strategy referring to novel licensing and technology transfer policies that would ensure greater access in the developing world to the fruits of university and publicly funded health technologies. (See page 6)
- **If proposed U.S.A. additions to element 5 are considered, include access as well as innovation** - In the present negotiations, the United States of America has suggested adding text to element five dealing with management of intellectual property and, in particular, language that would seek to expand the presence in the world of legislation from the United States known as the Bayh-Dole Act. If delegates decide to consider these additions to element 5, we would urge that they consider technology transfer mechanisms more generally beyond simple consideration of management of intellectual property which in many instances is too narrow to solve issues of access and innovation. We would also ask that Bayh-Dole not be considered from an innovation perspective only, but also through the critical frame of access. (See page 8)
- **Consider novel mechanisms that would improve R&D, particularly for neglected diseases** – We would urge delegates to consider throughout the text inclusion of novel mechanisms including those that improve R&D and delink the costs of drug discovery from the final product cost. In particular, we would urge consideration of prize funds and the proposals put forward by Bolivia and Barbados.
- **Numerous academics and global health leaders, including Nobel laureates have stood together in urging delegates to consider innovative mechanisms, so important to promoting health throughout the world, in their deliberations.** (See page 10)



## Universities and Access to Medicines: The Growing Importance of Universities to the Future of Pharmaceutical R&D

A number of elements and sub-elements reference publicly funded research, particularly that taking place at universities. Here we highlight the critical importance of these elements in relation to the future of drug research and development. This has particular relevance to elements 2.2 (b), 2.4 (c) and (d), 4.3 (b) and (c), and proposed additions to element 5.

### Diminishing returns on the traditional model of drug R&D

- Despite more than doubling spending on R&D, the pharmaceutical industry brought 43% fewer new chemical-based drugs to market during the five year period between 2002 and 2006 than in the last five years of the 1990s. <sup>1</sup>
- Over the same 5 year period, universities have seen an explosive increase - over 3,000% - in new products introduced to the market by licensees, from 26 in 2002 to 697 in 2006. <sup>2</sup>
- The pharmaceutical industry's decline in new products has been attributed to various causes outside the industry such as the oft cited 'excessive' FDA regulations. According to the FDA, however, "the number of [new drug] approvals have declined because companies are submitting fewer drugs to the FDA for approval".  
<sup>1</sup>
- An alternative viewpoint is that the prevailing industry model, with century old roots in the European chemical business, has succeeded in picking all the low hanging fruit, but is now floundering in its attempts to tackle problems of a higher level of complexity.

### Biotechnology: the future of drug R&D?

- Many believe that the future of drug development lies in biologics. Since 2005, pharmaceutical companies have spent almost \$76 billion purchasing biotech companies, and several companies have announced the formation of in-house biotech units. <sup>1</sup>
- Biologic drugs comprise a wide range of substances that may be produced by cells including proteins, antibodies, as well as most types of vaccines. Biologic-drugs have the potential for achieving an exquisite target-specificity that is difficult or impossible to attain with many chemically-based drugs.
- Many of the most exciting up and coming new technologies such as cancer vaccines, and personalized diagnostic testing approaches are biologically rather than chemically based.

### The role of universities

- Universities have become the "incubators" of the biotechnology industry. <sup>3</sup>
  - The recombinant DNA technology that has been critical to the biotechnology revolution was developed at Stanford and UCSF.
  - The vast majority of currently available biologic drugs were developed with significant university participation: Epogen (University of Washington), Insulin (University of Toronto), human growth hormone (UC Berkley), Remicade (NYU), Avastin (USC), etc.
  - There has not been a single vaccine brought to market in the past 25 years that has not had a contribution from university research. <sup>4</sup>
  - In 2006 alone, universities launched over 550 new start-ups, the majority involving biotechnology. <sup>2</sup>



- Another measure of the growing significance of universities is their role in addressing one of the greatest challenges to medical science in the past 25 years: the AIDS epidemic.
  - Much of the basic science research that has contributed to our current understanding of the AIDS virus has taken place at universities.
  - More than a third of HIV drugs introduced between 2002 and 2006 involve a university patent. <sup>5</sup>
- While screening of large compound libraries had traditionally been almost exclusively performed by large pharmaceutical companies, a rapidly increasing number of universities are creating ‘chemical genomics’ centers that use more sophisticated techniques to screen their own large compound libraries for activity against various diseases. (See page 4 for more information).
- When evaluating drugs based on health impact – rather than revenue – the importance of universities again becomes clear:
  - In 2000, a United States Senate report noted that of the 21 drugs with the greatest therapeutic impact as determined by a panel of experts, 15 were developed using research funded by the United States government. In the United States, most government-funded research occurs at universities. <sup>6</sup>

## The way forward

The university model of scientific inquiry driven by consideration of global public health needs and intellectual curiosity is succeeding where the industry model of research driven primarily by market considerations and the search for the next blockbuster drug is stagnating. Universities have a critical role to play in the future of pharmaceutical innovation, and the decisions being made now regarding the patenting and licensing policies surrounding publicly funded research have important implications for the future of global public health.

1) Wall Street Journal. Big Pharma Faces Grim Prognosis. December 6, 2007; Page A1.

2) Association of University Technology Managers Licensing Survey 2002 and 2006.

3) Chronicle Higher Education, Volume 54, Issue 33, Page A38.

4) Ashley Stevens, Manager of the Office of Cooperative Research at Boston University; Access to Medicines panel discussion, Yale University March 25, 2008.

5) These data are from a working paper by Bhaven Sampat, a professor at Columbia University.

6) *The benefits of medical research and the role of the NIH*. United States Joint Economic Committee, 2000.



## Universities and Access to Medicines: Promoting Accessibility to Compound Library Screening Resources

The screening of chemical compound libraries for activity against various disease targets is an important component of drug discovery. High Throughput Screening (HTS) is a method of screening many compounds in parallel for possible “hits” using advanced robotics and high speed computer technology. While HTS has traditionally been solely the sphere of large pharmaceutical companies, publicly funded research institutions have recently been developing facilities with these capabilities.

### New Approaches to HTS: Chemical Genomics

- Freed from many of the constraints of pharmaceutical companies, publicly funded research institutions are able to approach high-throughput screening creatively with a different set of priorities: "In academia, you have the luxury to get rewarded for your work even if it doesn't bring you to solid [intellectual property]".<sup>1</sup>
- Chemical genomics is the term that many university research centers are using to describe the new innovations they are applying to standard HTS technology. In contrast to traditional HTS, which looks at single proteins in isolation, chemical genomics begins with a general biological phenomenon, such as cancer cell division or DNA replication, and assays generally involve looking for chemical compounds that affect whole cells.
- Testing the effects of novel compounds on whole cells rather than isolated proteins has the potential to uncover completely new drug targets. For example, in 2005, a research group from the Cleveland Clinic used chemical genomics to reveal a new mechanism of tumor suppression.<sup>2</sup>

### Growing Numbers of Publicly Funded Chemical Genomics Research Facilities

- The NIH has recently launched the NIH Chemical Genomics Center (NCGC). Researchers can submit proposals relating to “anything which is encoded by any genome in any species”.<sup>1</sup>
- The NIH and the National Library of Medicine are currently developing a resource called PubChem - a swiftly growing database of over 10 million chemical compound structures with bioactivity information.<sup>3</sup>
- Several major university research centers such as UCLA, University of Illinois, and Yale University also have large chemical genomics facilities.

### Promoting Access to Compound Libraries and HTS for Public Health Needs

- Facilitated by the rapid expansion of publicly funded screening facilities and compound databases, chemical genomics is a powerful tool for upstream drug research. UAEM thus strongly supports the promotion of access to these resources and technologies, as well as collaboration with existing facilities to screen their compound libraries for drug leads particularly relevant to the unmet public health needs of developing countries.
- Given the importance of these tools for drug research, and recognizing that access to sophisticated screening techniques is crucial to the effective use of compound libraries, UAEM makes the following recommendations:

We ask the delegates to consider modifying the text of sub-element 2.2 (b) to read:



“promote upstream research and improve accessibility to compound libraries and screening facilities, provide technical support to developing countries in order to create libraries and screening facilities at both national and regional levels and promote access to drug leads identified through the screening of compound libraries;”

*Text in current draft:*

*(2.2) promoting upstream research and product development in developing countries*

*(b) [facilitate upstream research and] Improve accessibility to compound libraries [[including]/ [in particular] through voluntary means], provide technical support to developing countries in order to create libraries at both national and regional levels and promote access to drug leads identified through the screening of compound libraries;*

We ask the delegates to consider modifying the text of sub-element 2.4 (c) to read:

“support the creation of and increased access to existing open databases, compound libraries, and screening facilities including unrestricted access to drug leads identified through the screening of compound libraries.”

*Text in current draft:*

*(2.4) Promoting greater access to knowledge and technology relevant to meet public health needs of developing countries.*

*(consensus)*

*[(c) support the creation of open databases and compound libraries, including [unrestricted]/ [promoting] access to drug leads identified through the screening of compound libraries.]*

1 Dove, A. Nature Methods, 4(6), 523-532 (2007).

2 Gurova, K.V. et al. Proc. Natl. Acad. Sci. USA 102, 17448–17453 (2005).

3 <http://pubchem.ncbi.nlm.nih.gov/>



## Universities and Access to Medicines: Promoting Novel Mechanisms for Transfer of Technology

The professional association of university technology transfer managers and scores of universities have recognized the need for novel technology transfer mechanisms to ensure access to the fruits of university research in the developing world (see below). Given widespread acceptance of this responsibility, UAEM urges delegates to maintain and strengthen language in sub-elements 2.4(d) and all of element 4.3(b) and (c) of the Global Strategy referring to novel licensing and technology transfer policies that would ensure greater access in the developing world to the fruits of university and publicly funded health technologies.

### University Patent Managers Affirm Commitment to Technology Transfer Policies that Make Medicines Widely Accessible

In an email sent on 25 April, 2008, the President of the Association of University Technology Managers (AUTM), the professional association of university patent managers, based primarily in the United States, affirmed AUTM's support of including provisions in licensing agreements that address the needs of the poor in the developing world. AUTM President Jon Soderstrom of Yale University in the United States, reminded AUTM members of the policy document signed by AUTM and nearly fifty universities that states that signatories should:

**“Consider including [licensing] provisions that address unmet needs, such as those of neglected patient populations or geographic areas, giving particular attention to improved therapeutics, diagnostics and agricultural technologies for the developing world.”**

“Universities have a social compact with society. As educational and research institutions, it is our responsibility to generate and transmit knowledge, both to our students and the wider society....

“Around the world millions of people are suffering and dying from preventable or curable diseases. The failure to prevent or treat disease has many causes. We have a responsibility to try to alleviate it, including finding a way to share the fruits of what we learn globally, at sustainable and affordable prices, for the benefit of the world's poor. There is an increased awareness that responsible licensing includes consideration of the needs of people in developing countries and members of other underserved populations.

“...The application will vary in different contexts. The principle, however, is simple. Universities should strive to construct licensing arrangements in ways that ensure that these underprivileged populations have low- or no-cost access to adequate quantities of these medical innovations.”

### Licensing in the Global Strategy

The question of using licensing techniques to improve access to medicines and medical technologies is addressed in sub-elements 2.4(d) and 4.3(b) and 4.3(c). Licensing that achieves “humanitarian and access objectives,” particularly for the outputs of university and publicly funded research, is a critical avenue to lower the cost of medicines, particularly by enabling generic production.

- **Sub-Element 2.4(d), Open Licensing:** In light of the licensing statement signed onto by university technology managers, open licensing is an important technique that can enable generic production in the developing world leading to drastically lower prices for medicines. By using open licensing for these medical innovations, universities stand to lose next to nothing given that many medicines often do not have a significant market due to high prices.
- **Sub-Elements 4.3(b) and (c):** We believe the inclusion of sub-elements 4.3(b) and (c) is critical to give direction to the efforts of the WHO. One important barrier to the inclusion of access provisions in university licenses in particular is the lack of experience of technology transfer officers



in drafting licenses that include them. Comprehensive guidelines and that could better enable technology transfer officers to execute licenses with humanitarian and access objectives would fill an important gap in knowledge in the technology transfer industry, particularly at universities. In addition, we believe that the specific description of licensing that “promotes humanitarian and access objectives” is useful model language that can be further explored in the indicators of the plan of action. Canada itself used the language of “humanitarian licensing” while commenting on Element 5 at the Ottawa Americas regional consultation saying:

“It is important to give adequate emphasis to institutional policies and practices regarding IP. These include: promoting the adoption of humanitarian licensing policies by publicly funded universities and health funding agencies; and exploring the use of licensing guidelines and patent pools for upstream research and, where appropriate, downstream research.”<sup>1</sup>

## *Referenced Text*

In this context we would urge that sub-element 2.4(d), currently in brackets, be included as written.

*(2.4) Promoting greater access to knowledge and technology relevant to meet public health needs of developing countries. (consensus)*

- (d) encourage developed countries, universities and donors to require that publicly or donor funded medical inventions and know-how be made available through open licensing for use in developing countries on reasonable and affordable nondiscriminatory terms.

We would also urge that 4.3(c), currently in brackets, be included as written. In the case of element 4.3(b), we urge that the final text read as noted below:

*(4.3) [promote transfer of key health related technology] / [developing mechanisms to manage intellectual property] [in a rational and health-oriented manner] in order to promote transfer of and access to key technologies [, including sharing of patent databases]*

- (b) consider additional effective, sustainable and complementary or alternative mechanisms to promote innovation of and access to products of relevance to public health needs of developing countries, for instance, licensing guidelines and policies that promote humanitarian and access objectives.
- (c) encourage appropriate patenting and licensing policies that maximize access to innovations for development of products of relevance to the public health needs of developing countries.

<sup>1</sup> Submission from Ottawa Americas regional IGWG consultation, Additions and modifications to A/PHI/IGWG/2/2, October, 2007. Available [http://www.who.int/entity/phi/public\\_hearings/second/regional\\_consultations/RC\\_AMRO.pdf](http://www.who.int/entity/phi/public_hearings/second/regional_consultations/RC_AMRO.pdf)



## Universities and Access to Medicines: The Bayh-Dole Act and Promoting the Transfer of Technology of Publicly Funded-Research

In the present negotiations, the United States of America has suggested adding text to element five dealing with management of intellectual property and, in particular, language that would seek to expand the presence in the world of legislation from the United States known as the Bayh-Dole Act. If delegates decide to consider these additions to element 5, we would urge that they consider technology transfer mechanisms more generally beyond simple consideration of management of intellectual property which in many instances is too narrow to solve issues of access and innovation. We would also ask that Bayh-Dole not be considered from an innovation perspective only, but also through the critical frame of access.

### Bayh-Dole as Implemented in the United States Has Limitations that Must Be Considered

The Bayh-Dole Act became law in the United States in 1980 due to the perception that federally funded research was not moving efficiently from the lab to the marketplace. This Act sought to facilitate this transition by providing clear ownership of intellectual property arising from taxpayer funded research. Under the Act, the institution performing the research, typically a university, was vested with the right to own the patent rights of a discovery resulting from such work and to exclusively license out a patented invention on the premise that exclusive licensing would bring the investment necessary to develop a university discovery into a marketable product available to the public.

However, Bayh-Dole in the United States was passed based on certain assumptions and has certain drawbacks:

- **University Patenting Was on the Rise Before Bayh-Dole.** One rationale for Bayh-Dole was the belief that universities were not taking steps to take federally funded inventions to market and that to accomplish this, clear ownership of patents was necessary. However, university patenting activity was already increasing before passage of the Act due to court decisions on patentability and the advent of biotechnology on university campuses. According to Colyvas, et al, Bayh-Dole only magnified the trend.<sup>2</sup>
- **Many University Technology Transfer Offices Operate at a Loss.** Though the purpose of the Act was not focused on increasing university funding, maximizing revenue has become a key goal of university licensing policy. Nonetheless, according to the same NIH report, “Given the investment in patent prosecution costs, operating expenses, and revenue sharing with inventors as provided by law, many universities operate their technology transfer programs at a net loss.”<sup>3</sup>
- **Publicly Funded Medicines Under Bayh-Dole Do Not Improve Access as They Remain Subject to Monopoly Pricing.** March-in rights, a safeguard meant to ensure access to the fruits of federally funded research on reasonable terms, have never been exercised. Despite taxpayer subsidies, publicly funded medicines remain subject to monopoly pricing.<sup>4</sup>
- **Bayh-Dole Promotes Little in the Way of Innovation for Neglected Diseases.** The dearth of medicines for neglected diseases is generally thought to be caused by the lack of an adequate market to buy a commercially developed treatment. Bayh-Dole, provides no real added incentive for production of a product for which a commercial interest believes it will not recuperate the costs of production.

<sup>2</sup> Jeannette Colyvas, et al, "How Do University Inventions Get Into Practice?" *Management Science*, Vol. 48, No. 1, January 2002, pp. 61-72, DOI: 10.1287/mnsc.48.1.61.14272.

<sup>3</sup> National Institutes of Health Web Site, “NIH Response to the Conference Report Request for a Plan to Ensure Taxpayers’ Interests are Protected,” available at: [http://ott.od.nih.gov/policy/policy\\_protect\\_text.html](http://ott.od.nih.gov/policy/policy_protect_text.html).

<sup>4</sup> Peter S. Arno & Michael H. Davis, “Why Don’t We Enforce Existing Drug Price Controls? The Unrecognized and Unenforced Reasonable Pricing Requirements Imposed upon Patents Deriving in Whole or in Part from Federally Funded Research” 75 *TUL. L. REV.* 631 (2001).



## The United States of America Has Proposed Adding Provisions to Element Five, One of Which Emulates Bayh-Dole

The United States of America has suggested adding two provisions to element five of the Global Strategy, both dealing with the management of intellectual property, one of which emulates Bayh-Dole. The suggested additions are as follows:

“Encourage technical assistance to developing countries to enhance educational capacity and training on the management of intellectual property rights.”

“Encourage the establishment of national frameworks to facilitate licensing or transfer of intellectual property rights on inventions developed from publicly funded research, including those developed by public institutions, to promote further development of innovative products.”<sup>5</sup>

Sub-elements 2.4(d) and 4.3(b) and (c), which we fully support, properly deal with licensing in terms access, which should be considered in these proposals alongside innovation.

We recommend that in both cases, references to “transfer of technology” be substituted for references to “intellectual property rights.” Also, the goal of technology transfer for the outcomes of publicly subsidized research should not only be innovation, but also access. As noted above, systems such as Bayh-Dole do little for access and, particularly for neglected diseases, do not promote innovation. For this reason, broader strategies beyond simple management of intellectual property rights should be considered in order to have a wider set of tools available for sharing the fruits of publicly funded research, particularly if the transfer of knowledge or materials is necessary for humanitarian purposes. We therefore recommend that, if the suggested additions of the United States of America are taken up, they be amended to read as follows:

“Encourage technical assistance to developing countries to enhance educational capacity and training on the *transfer of technology in order to maximize technological innovation and access to resulting health technologies.*”

“Encourage the establishment of national frameworks to facilitate *the transfer of technology for* inventions developed from publicly funded research, including those developed by public institutions, to promote *access to and* further development of innovative products.”

---

<sup>5</sup> “U.S. Government Comments for the WHO Intergovernmental Working Group on Public Health, Innovation and Intellectual Property (IGWG)” available at [http://www.who.int/entity/phi/submissions/U.S.A\\_ConfPaper1.pdf](http://www.who.int/entity/phi/submissions/U.S.A_ConfPaper1.pdf).

(To add your name to this statement, email [ady.barkan@gmail.com](mailto:ady.barkan@gmail.com))

## **Making Innovation and Tech Transfer Work for Global Health: The University's Role and Responsibility to Society**

April 28, 2008

This week, a working group of the World Health Organization is meeting to discuss innovative institutional approaches to address the lack of research funding for diseases that disproportionately affect the global poor.

The proposals before the WHO's Intergovernmental Working Group on Public Health, Innovation, and Intellectual Property include innovations meant to draw investment that will serve the needs of populations too poor or too small to provide sufficient market pull and to overcome the systematic problems of above-marginal cost pricing inherent in patent-based innovation. These proposals include a treaty on bio-medical R&D and new incentive mechanisms for R&D that would use prizes as incentives for research (including both voluntary open licensing or non-voluntary mechanisms<sup>1</sup>). These ideas, while varied and plausibly contestable in their details, all fall well within the types of solutions that are the result of significant research on the economics of innovation and access.<sup>2</sup>

Despite the obvious necessity for greater investment in research to serve the needs of the global poor, and the substantial academic backing for the types of solutions placed before the WHO, the Association of University Technology Managers (AUTM) initially asked its members, in an April 16, 2008 memorandum, to add their support to a letter – reflecting the position of the pharmaceutical industry – that resists these institutional innovations. “Prize systems,” the initial AUTM memorandum stated, “a medical R&D treaty, and compulsory patent pools are being advocated as alternatives to patents and IP protections at the April 28 meeting. These solutions could pose a challenge to our current and very successful system of innovation and tech transfer.”

Following a campaign in opposition to this proceeding, the president of AUTM apologized that the organization had appeared to endorse the letter and reaffirmed the organization's support for a “broad array” of strategies “that serve the global public good and ensure access alongside innovation.” While the ultimate outcome was satisfactory, the initial miscommunication raised doubts about where the American scientific community stood in advance of the crucial meeting at the WHO. The event is a symptom of a larger problem at universities: Our positions on questions of research, global development, and technology transfer have never been set in an open, community wide debate. As a result, universities lack a coherent approach aimed at addressing research on neglected diseases and access to essential medicines for the global poor, an absence that is at odds with our core mission of disseminating knowledge for the public good.

---

1 Of the five member country proposals on prizes to stimulate R&D, four that address the unmet global R&D needs would rely on voluntary open licensing to promote access. A fifth involving cancer drugs in developing countries, would involve non-voluntary licenses to use patents, in return for prize type rewards.

2 See, e.g., Michael Kremer, Pharmaceuticals and the Developing World, *The Journal of Economic Perspectives*, Vol. 16, No. 4 (Autumn, 2002), pp. 67-90; Steven Shavell & Tanguy van Ypersele, Rewards versus Intellectual Property Rights, *Journal of Law and Economics*, Volume 44, Number 2, October 2001, 525-547; William Jack and Jean O. Lanjouw Financing Pharmaceutical Innovation: How Much Should Poor Countries Contribute? *The World Bank Economic Review* 2005 19(1):45-67; Michele Boldrin & David K. Levine, *Against Intellectual Monopoly*, Cambridge University Press 2008; Joseph Stiglitz, Prizes Not Patents, at <http://www.project-syndicate.org/commentary/stiglitz81>; Aidan Hollis, An Efficient Reward System for Pharmaceutical Innovation, at [www.who.int/intellectualproperty/news/en/Submission-Hollis.pdf](http://www.who.int/intellectualproperty/news/en/Submission-Hollis.pdf)

This situation must change. Basic questions of scientific research, university technology transfer, and their relation to access to knowledge and development should properly be addressed by the governing bodies and faculties of the universities. Technology transfer offices have a constructive role to play in implementing policy set by scientists and other scholars. But AUTM should not be speaking in the name of the university community as a whole.

We therefore urge our universities to begin a new, open process for setting policies regarding the funding and licensing of basic science: These policies must be set by the academic faculties, in particular the scientists whose research is at stake and social scientists and others who study innovation and development. These processes should be conducted in open forums with opportunity for input from patient advocates, students, and the broader public. This will ensure that the policies serve the public good and reflect the values of the university community.

Furthermore, we encourage the Intergovernmental Working Group to support the exploration of new and innovative mechanisms that seek to correct the deficiencies of the current system.

Universities have a social compact with society. As educational and research institutions, it is our responsibility to generate and transmit knowledge, both to our students and the public. We have a specific and central role in helping to promote innovation in many fields and to manage the deployment of our innovations for the public benefit. In no field are the moral imperatives to do so as clear as they are in medicine. It is high time that we discussed this moral imperative as the open, deliberative communities that we believe ourselves to be.

## **Initial Signatories**

### **Joseph Stiglitz**

Nobel Laureate in Economics  
University Professor, Columbia University

### **Yochai Benkler**

Berkman Professor for Entrepreneurial  
Legal Studies, Harvard University

### **William W. Fisher III**

Hale and Dorr Professor of Intellectual  
Property Law, Harvard University

### **Anthony So**

Director of the Program in Global Health  
and Technology Access, Duke University

### **Kevin Outterson**

Director of the Health Law Program  
Boston University School of Law

### **Sir John Sulston**

Nobel Laureate in Medicine  
Professor of Life Sciences, University of  
Manchester

### **Jim Yong Kim**

Professor of Social Medicine  
Harvard University

### **Richard Nelson**

Henry R. Luce Professor of International  
Political Economy, Columbia University

### **Paul Davis**

Director  
U.S. Government Relations, Health GAP

### **Ian Shapiro**

Sterling Professor of Political Science  
Yale University

**Amy Kapczynski**

Assistant Professor of Law, University of  
California, Berkeley, School of Law

**Thomas Pogge**

Professor of Philosophy  
Yale University

**Tom Kalil**, Special Assistant to the  
Chancellor for Science and Technology  
UC Berkeley

**Kaveh Khoshnood**

Assistant Professor in Public Health Practice  
Yale University

**Matthew Rimmer**

Senior Lecturer  
ANU College of Law

**Aidan Hollis**

Associate Professor of Economics  
University of Calgary