Surveying the Need for "Technology Management for Global Health" Training Programs

Usha Balakrishnan[1], Lisa Troyer[2], Edwin Brands[3]

[1]Centre for the Management of Intellectual Property in Health Research and Development - USA (MIHR-USA), 33 Buchanan Court, Iowa City, IA 52246; usha@mihr.org
[2]Department of Sociology, University of Iowa, Iowa City, IA 52242; lisa-troyer@uiowa.edu
[3]Department of Geography, University of Iowa, Iowa City, IA 52242; edwin-brands@uiowa.edu

BACKGROUND

Technology licensing office (TLO) managers in universities have begun to address the issue of applying intellectual property (IP) management tools in the context of global health. TLO managers typically perform a multitude of tasks, from evaluating inventions for patentability and marketability, to educating researchers on key IP issues, to crafting licenses that are mutually beneficial to researchers, the university, and private industry. With the purpose of enhancing public benefit through technology transfer, TLOs often need to -- as could be expected due to the high cost of patent prosecution -- evaluate profitability and commercial potential in their decision-making. Increased TLO manager consideration of the potential contributions of new health R&D and product innovations to address important global public health goals (i.e., reduction of disease burdens among millions of affected poorer populations in developing countries) will require forging new collaborative relationships, incorporating creative licensing practices, and embracing "global public good" within academic and research communities.

Despite facing pressures from multiple constituencies, and working through daunting project caseloads, some TLO managers have recently begun to discuss IP management challenges in the context of global health. Such discussions have gained momentum within AUTM and led to the recent organization of the special interest group, Technology Managers for Global Health (TMGH) in partnership with Oxford, UK-based MIHR (Centre for the Management of Intellectual Property in Health R&D). Based on discussions held within TMGH, we have found enormous enthusiasm to belong to an informal resource network to (i) address IP and global health concerns on an ongoing basis, and thereby, raise the general level of awareness and sensitivity among AUTM colleagues, and (ii) gather and generously share a growing collection of relevant experiences through informal and/or formal mechanisms to a large number of AUTM as well as non-AUTM professionals.

Facilitating the training of TLO managers who want to actively consider the global health implications of their work is an essential step in enabling individuals and institutions to launch their own forays into this area. This type of training may lead to uniquely refined roles for TLO managers and their institutions in promoting global health partnerships. Much as technology transfer activity has evolved over the last three decades, such new training and ensuing dialogs may help formulate new approaches and models that universities may utilize to catalyze partnerships in the global health arena. Enabling a more effective pursuit of TLO's "public benefit" mission in this way has the potential to extend the impact of TLO managers' (and their institutions') work into much broader global contexts.

In this paper, we report on the results of a survey designed to identify and document opportunities and barriers to the management of discoveries and inventions arising from global health (GH) research outcomes at a number of academic and research institutions in the US and Canada.

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SUMMARY OF FINDINGS

Our two part survey was anonymously administered to a stratified sample of U.S. and Canadian institutional affiliates of AUTM members. Part I of the survey was aimed at gathering descriptive information about the TLOs; whereas Part II was aimed at decision making processes and and barriers to, experience with, and interest in promotion of global health discoveries. An overall response rate of approximately 56% was achieved.

Eighty percent of responding TLOs had less than $4 million in annual licensing income. The median TLO is relatively small with two professionals and one support staff, processing 34 disclosures and executing six patent licenses/options, with a licensing income of $700,000 and external research dollars between $20 and $90 million, annually

Patentability and long-term commercialization were rated highest in terms of importance of criteria in general evaluation of patents and disclosures. However, a lack of income generation potential was not viewed as a major barrier to promoting global health related inventions. The lack of global health related invention disclosures, followed by a lack of external funding for global health related research, were viewed as the greatest obstacles. We suspect that these two factors are interrelated: The lack of funding is likely to affect research, which drives inventions (and subsequently disclosures for evaluation by TLOs).

Public-private product development partnerships have recently emerged as one of the key elements in developing global health technologies. Our survey results suggest that currently, there is a lack of experience among TLO managers with such partnerships: less than one tenth of the survey respondents reported any activity in this area. Our survey also probed TLO directors regarding training and education activities, in general as well as specifically in the area of global public health technology transfer. The vast majority of respondents (>88%) conduct educational seminars; yet, of these respondents less than 5% incorporated a global health component into their seminars.

The final component of our survey gauged the usefulness of potential elements of educational curricula involving global public health technology management activities. Respondents rated highly all of the six elements we identified in the survey: including (in order of their ranking) a list of funding opportunities, a list of potential global health partners, sample licensing language, standard humanitarian purpose licensing provisions, case studies, and a directory of experts/technology managers experienced in global health technology management.

The results of our survey indicate that the majority of TLOs are relatively small, and suggest that there is currently a lack of global health management experience among the sample of U.S. and Canadian TLOs that responded to the survey, and that systemic barriers (lack of research funding and lack of inventions) are major obstacles to promoting global health inventions. The lack of experience, partnerships, and seminars/training points to a need for developing talents, networks, and tools for raising awareness and developing curricula for technology managers in order to enhance our collective ability to address significant and pressing global health challenges.

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