Martinson, B. C., M. S. Anderson, and R. de Vries 2005. Scientists behaving badly. *Nature* 435 (7043):737–38. doi:10.1038/435737a.

Pearlman, R. A., M. B. Foglia, J. H. Cohen, B. L. Chanko, and K. Berkowitz. 2015. Ethics consultation quality assessment tool: A novel method for assessing the quality of ethics case consultations based on the written record. *American Journal of Bioethics* 16 (3):3–14. doi:10.1080/15265161.2015.1134704.

Porter, K., M. Danis, H. Taylor, M. Cho, and B. Wilfond. 2018. The emergence of clinical research ethics consultation: Insights from a

national collaborative. American Journal of Bioethics 18 (1): 39_45

Sharp, R. R., H. A. Taylor, M. A. Brinich, et al. 2015. Research ethics consultation: Ethical and professional practice challenges and recommendations. *Academic Medicine* 90 (5):615–20. doi:10.1097/ACM.00000000000000040.

Taylor, H. A., N. E. Kass, J. Ali, S. Sisson, A. Bertram, and A. Bhan. 2012. Development of a research ethics knowledge and analytical skills assessment tool. *Journal of Medical Ethics* 38:236–42. doi:10.1136/medethics-2011-100025.

Hotline Bling: Late-Night Ethics Calls as an Alternative to Research Ethics Consultations

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Porter and colleagues (2018) describe the expansion of research ethics consultations (REC) services within the biomedical research field. This is an ongoing and worthwhile effort, especially given the mounting number of complex and multifaceted ethical and legal concerns associated with academic biomedical research (Sharp et al. 2015). However, the potential costs of a serviceable REC, including both monetary and professional manpower, can swell well beyond that of all but the largest research institution budgets. Keep in mind that if done wrong, a less-than-optimal REC could be a liability, burdening legitimate research through inapt, inept, or inactive guidance.

This is an important caveat to the growing popularity

Universities have a history of investing in not-necessarily-essential research-related efforts that when underfunded can be more damaging than helpful. Consider the technology transfer office (TTO). Optimally, a number of experienced lawyers, including patenting, licensing, and employment attorneys, as well as paralegals, marketing professionals, and other support staff, would operate such an office. Like RECs, the basic staffing requirements make the cost of running a good office prohibitive for all but the most elite universities. Nevertheless, universities of all sizes and research budgets maintain such offices. According to one assessment, since 2000, less than 40 institutions nationwide have made it into the top 20 TTOs in the United States in terms of licensing revenue (although their problems are not limited to the United States; Greenbaum 2011), and even most of those lose money (Valdivia 2014).

Many TTOs are effectively a drag on university research resources (Greenbaum and Scott 2010). The Association of University Technology Managers (AUTM) annually chronicles the growing numbers of academic patents. To wit, consider AUTMs own self-reported statistics. In 2015 (the last year for which data are available), the 25,000 invention disclosures solicited and received from university academics by TTOs resulted in nearly 16,000 relatively expensive patents applications (AUTM 2017)—a conversion rate that seems objectively excessive. Experienced patent professionals know that most patents have little monetary value and patents often cost more to acquire than they are ever worth (Allison, Lemley, and Walker 2009), so why convert more than half of all disclosures, often from unwitting academics, into costly patents, most without likely concomitant licensing revenues (Valdivia 2013)? This effectively illustrates why most university transfer offices are money losers, and, at minimum, highlights how their inefficiencies arising out of less-than-ideal staffing unnecessarily tie up academic innovation as proprietary matter.

A recent proposal suggested that universities, especially smaller research institutions, pool their resources into shared regional technology transfer offices that, taking advantage of economies of scale, could be better staffed and funded, and as such, better able to serve the needs of the innovators in academia in research institutions of all sizes and funding levels, for example, through smarter patenting, better licensing, and more savvy marketing of university innovation (Greenbaum 2008).

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The take-home message: Not every research institution needs to have the research-related infrastructure of its largest peers, and these institutions are often better off pooling their resources to create value-enhancing shared enterprises.

RECs raise similar concerns. To be effective, each REC requires capital and professional labor that are often unavailable at most small and mid-size research institutions. Moreover, the upshot of having undercapitalized, undermanned, and perhaps even ethically/legally conflicted RECS can be the hampering of innovation through inadequate legal and ethical consultations.

Instead, like the proposal for regional TTOs, we also propose regional RECs. Given the importance and necessity of ongoing ethics guidance in many areas of academic research, and the general lack of ethics training among academic researchers—the problem that RECs were meant to tackle—we further propose that the recommended regional RECs be associated with smaller, less costly, but capable systems in each individual research institution. These smaller systems would include an ethics hotline for nonegregious, mostly anticipatable, ethics concerns. The hotlines would provide quick guidance for the small manageable issues that arise out of the course of many areas of research.

In this scenario, most day-to-day ethics and/or legal concerns are managed by these smaller on-call hotlines. The local hotline systems would mirror the long-standing confidential legal ethics hotline services provided by many state law bars. Notably, like state bar hotlines that are often staffed by junior paralegals and provide only direction rather than a substantive opinion, the proposed hotlines would not need to have costly professionals. Rather, even junior researchers can be adequately trained to provide sufficiently helpful information for a large percentage of ethical quandaries.

The more convoluted and complicated, non-anticipatable and potentially egregious concerns would be outsourced to the larger, better staffed regional RECs. These better staffed RECs could also advance other goals of RECs beyond the immediate issues arising over the course of research, including, for example, increasing social benefits arising out of primary research or promoting advanced ethics scholarship.

Setting up such a hotline is nontrivial, and substantive guidelines and training regiments should be drafted to provide the necessary guidance and direction to those who staff the lines. Given the less than urgent nature of many of the anticipated interactions on such a hotline, the system might even be staffed by bioethics students whose advisory opinions could be part of their clinical or experiential pedagogical program. This opportunity to further train future ethicists is an important and valuable externality of the proposed hotline program, and perhaps even a necessity, especially given the mounting number of complex and multifaceted ethical and legal concerns associated with academic biomedical research.

REFERENCES

Allison, J. R., M. A. Lemley, and J. Walker. 2009. Extreme value or trolls on top? The characteristics of the most-litigated patents. *University of Pennsylvania Law Review* 158 (1):1–37.

Association of University Technology Managers. 2017. Association of University Technology Managers, FY 2015 licensing survey. March 1. Available at https://www.autm.net/resources-surveys/research-reports-databases/licensing-surveys/fy2015-licensing-survey

Greenbaum, D. 2008. Academia to industry technology transfer: An alternative to the Bayh–Dole system for both developed and developing nations. Fordham Intellectual Property, Media & Entertainment Law Journal 19:311.

Greenbaum, D. 2011. 10 National technology transfer mechanisms. In *Handbook on law, innovation and growth*, 245. Northampton MA: Edward Elgar Publishing Ltd.

Greenbaum, D., and C. Scott. 2010. Hochschullehrerprivileg—A modern incarnation of the professor's privilege to promote university to industry technology transfer. *Science, Technology and Society* 15 (1):55–76.

Porter, K., M. Danis, H. Taylor, M. Cho, and B. Wilfond. 2018. The emergence of clinical research ethics consultation: Insights from a national collaborative. *American Journal of Bioethics* 18 (1):39–45.

Sharp, R. R., H. A. Taylor, M. A. Brinich, et al. 2015. Research ethics consultation: Ethical and professional practice challenges and recommendations. *Academic Medicine* 90 (5):615.

Valdivia, W. D. 2013. University start-ups: Critical for improving technology transfer. Brookings Institute, November 20. Available at: https://www.brookings.edu/research/university-start-ups-critical-for-improving-technology-transfer

Valdivia, W. D. 2014. Technology transfer: Highly dependent on university resources. Brookings Institute, March 4. Available at: https://www.brookings.edu/blog/techtank/2014/03/04/technology-transfer-highly-dependent-on-university-resources