Scientists warn against stifling effect of widespread patenting in stem cell field

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(PhysOrg.com) -- In an opinion piece published on Feb. 10 in the journal Science, a team of scholars led by a Johns Hopkins bioethicist urges the scientific community to act collectively to stem the negative effects of patenting and privatizing of stem cell lines, data and pioneering technologies. This means grappling with the ambiguity of several fundamental distinctions typically made in ethics, law, and common practice, the experts insist.

The team, led by Debra Mathews, Ph.D., M.A., of the Johns Hopkins Berman Institute of Bioethics, says failures to properly manage the widespread patenting by both private and public organizations threatens to obscure what is and what isn't in the public domain. In addition, this disarray may well hinder progress toward breakthroughs that could lead to new treatments the public desperately wants.

"Pervasive taking of intellectual property rights has resulted in a complex and confusing patchwork of ownership and control in the field of stem cell science," says Mathews, assistant director for science programs at the Berman Institute. "While intellectual property provides a critical incentive to take basic scientific discoveries and translate them into marketable products, transparency about such property is equally critical."

In addition to Mathews, the commentary was co-authored by David Winickoff, an associate professor of bioethics and society at the University of California, Berkeley; Gregory Graff, an assistant professor

at Colorado State University with expertise in intellectual property rights; and Krishanu Saha, a postdoctoral fellow in stem cell research at the Whitehead Institute of Biomedical Research, in Cambridge, Mass.

“Following trends seen elsewhere in the sciences,” the authors write, “stem cell researchers—and the companies and universities for which they work—are increasingly taking private ownership of early-stage technologies, cell lines, genes and associated data.”

The tracking and trading of intellectual properties is much harder than the tracking and trading of other kinds of assets, such as real estate, according to Graff. He used the analogy of the popular real estate website, the Multiple Listing Service, saying there is no equivalent public “MLS” that serves as a property records registry for stem cell researchers.

“The lack of transparency about who owns what intellectual property rights can hamper stem cell research and development,” Graff says, “and so can the resulting ambiguity of the distinction between what is private property and what is in the public domain.”

Further bogging down the field, the authors assert, is the increasing blurriness of two additional and fundamental distinctions. For one, the boundary that separates what is “information” and what is “material” gets more obscure by the day. Secondly, stem cells are not simply research material: All cell lines are derived from the tissues of human beings—people who may have an interest in the future of their genetic material and, by law, have certain personal rights that must be respected.

“Existing programs to reform science are based on a partial diagnosis of the problem,” says Winickoff. “We need a conceptual synthesis that reflects how stem cells entangle persons and things, information and materials, property and the public domain.

“A real solution to the problem,” Winickoff continues, “will have to manage all three of these complexities together, and we think we have a pathway for doing that.”

The authors echoed a recent consensus statement issued by the Hinxton Group, an international consortium of experts in stem cell science, ethics and law, which decries the increasingly secretive climate created by excessive patenting and proprietary claims within the stem cell community.

“There are very real concerns in industry about freedom to operate and concerns about lawsuits down the line, once they’ve invested a huge amount of money—and then, a patent pops up that they didn’t know about,” Mathews, a member of the Hinxton Group, said at a Jan. 24 panel discussion that coincided with the release of the consensus statement.

Both the statement and today’s article in Science call for collaborative information and materials hubs that would broaden access and help clarify what types of information are rightly proprietary and what types are not. One such hub, the authors suggest, might take the form of a centralized portal for access to existing databases, such as the UK Stem Cell Bank and the Human Embryonic Stem Cell Registry .

The authors also acknowledge that major challenges to the development of that and similar resources include securing funding, designing and programming talent, and deciding who would provide ongoing, administrative oversight.

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