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Geography and Mental Health

Fear not, this column is not a treatise on the state of mind of geographers. Rather, what I would like to discuss here are the opportunities and needs for geography to participate in the rapidly expanding field of mental health research, a relatively unexplored area for geographers but one in which geography can, I'm convinced, be a significant and potentially paradigm changing contributor. It is also a research area in which geographers can engage with and help address enormous human and societal needs.

As many of you know, the AAG has been working for several years to try to build relationships with the National Institutes of Health (NIH) on behalf of geography, and to help medical researchers in the many different NIH centers better understand what geography and geographers have to offer to the field of medical research. This work has continued to develop new inroads for geography at several NIH institutes, as well as in the broader medical research communities outside of NIH. The AAG and the NIH's National Institute of Drug Abuse (NIDA), for example, have jointly sponsored special symposia at the AAG's Annual Meetings¹ during each of the past four years, on the previously undeveloped research area of Geography and Drug Addiction. That ongoing effort has drawn interest from throughout NIH and resulted in the publication of a book, *Geography and Drug Addiction*,² which is now being widely circulated in medical research circles, and is available from the AAG.

The AAG's work on geography and drug addiction with NIDA has sparked further interest at other NIH Institutes, including the National Institute of Mental Health (NIMH), in geography's potential to also make contributions to the field of mental health research. I have been in lengthy and productive discussions with NIMH researchers engaged in genomic studies which attempt to identify genetic markers, the presence or absence of

which, it is hypothesized, may correlate with various complex mental disorders, such as schizophrenia, depression, and so forth. The challenge here, however, is that genetic factors are rarely determinant, and nearly always are highly interactive with environmental risk factors.



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This new genetic research has revived old debates about nature versus nurture, or genes versus environment, but at a whole new scale and level of detail and sophistication. As mental health and other medical researchers are able now to obtain highly detailed and sophisticated genetic information, there is developing also a counter-demand for more highly de-

tailed and sophisticated information about the environment in order to attempt to sort out and understand complex gene-environment interactions. This is where geography, with its emphasis on place and related geographic methodologies for organizing and understanding environments, and GIS, with its ability to integrate and correlate vast amounts of different environmental data with observed conditions such as mental health disorders or genetic risk factors, becomes central to this new research.

Consequently, geography and GIS are now on the threshold of enabling substantial new breakthroughs in medical research involving complex gene-environmental interactions. We still have a long way to go in understanding genetic and environmental interactions, and our GIS systems and geographic methods are both challenged by the complexity of these systems. However, I have found that medical researchers everywhere, from NIH to universities and private companies, are highly receptive to the promise that geographic methodologies and GIScience hold for a better understanding of the etiology, treatment, and prevention of disease, addiction, and mental health disorders.

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An illustration of the unexpected pathways and intriguing outcomes of these creative interactions between geography and the medical and mental health researchers at NIH was an invitation I received last fall to help organize a special session, together with scientists from NIH, on the topic of "Geography, Addiction, and Mental Health" for a meeting of the International Federation of Psychiatric Epidemiologists, which was held in Vienna, Austria, and from which I just returned. While generally not at a loss for words, I must admit that I was at first not quite sure what I should say (or not say) to a room full of psychiatrists. However, the meetings went very well and there was genuine excitement on the part of the psychiatrists, geneticists, psychologists, and medical researchers present in learning more about geography's potential contributions to research on understanding the role of place and the environment in mental disorders and their treatment. Examples

of the dozens of research themes with geographic dimensions we discussed included: genetic and environmental interactions in schizophrenia; research on the consequences of refugee displacement; psychiatric morbidity of homelessness; psychopathology among Holocaust survivors and their children; urbanicity and psychoses; the global economic burden of mental disorder; public policy and the measurement of happiness; and searching for genes with environmental interactions in complex disorders. Plans are underway to follow-up both organizationally and individually to help link these research programs with geography and GIS.

As one NIH scientist noted at our session, "To date, most recent mental health research has focused largely on biomedical pathways. Increasingly, however, researchers are considering how people's environments, the physical and cultural contexts in which they live, influence the prevalence and con-

sequence of mental health disorders." The AAG will continue to engage evolving issues of geography's potential role in medical research at all institutes of NIH, and I encourage geographers, GIScientists, and GIS specialists to consider how you might work together with researchers at NIH's National Institute of Mental Health to help address these complex but pressing mental health research and human needs. For more information, please contact www.aag.org or www.nimh.nih.gov. ■

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¹"Making Connections: Geography and Drug Addiction" by Doug Richardson. *AAG Newsletter*, September 2005, pp. 2, 6.

²*Geography and Drug Addiction*, Springer, 2008. Edited by Yonette Thomas, Douglas Richardson, and Ivan Cheung.