

Current Research Projects - September 2004

Disease Control Priority Project: Illicit Drug Use

Overview: The World Health Organisation (WHO), World Bank, and the Fogarty Center, US National Institutes of Health have been funded by the Bill and Melinda Gates Foundation to identify disease control priorities in the developing world. Wayne Hall is to lead a team of investigators that will identify disease control priorities for illicit drug use. This will involve analyses of epidemiological studies of the prevalence of illicit drug use, premature mortality caused by various types of illicit drug use, and the effectiveness of different interventions (e.g. law enforcement, prevention and treatment) that aim to reduce illicit drug use and the harm that such drug use causes. Economic analyses will identify the most cost-effective of available interventions that can be used by developing countries to reduce illicit drug use and drug-related harm.

OPPE Staff: Wayne Hall

Collaborators: Alan Lopez, Chris Doran, Louisa Degenhardt, Rick Harwood and Donald Shepard

Epidemiological and Economic Modelling of the Potential Impact of a Nicotine Vaccine on Abstinence Rates in the Population

Overview: Tobacco smoking is the risk factor that is responsible for the greatest burden on the health of Australians. It is estimated that 45% of all tobacco-related costs are potentially avoidable if tobacco smoking were to be eliminated. A novel treatment approach now under development to facilitate smoking cessation is a nicotine vaccine. The most promising clinical application of human nicotine vaccine is likely to be in relapse prevention in abstinent smokers. It may also have a role in preparing smokers to quit. Epidemiological and economic models will be developed to assess the potential impact of a nicotine vaccine on smoking prevalence and disease burden in the Australian population. If a nicotine vaccine looks promising in such modeling it may prove easier to find the public or private funding to evaluate its efficacy, apply for its registration and introduce it into clinical practice.

OPPE Staff: Angela Wallace and Wayne Hall

Collaborators: Chris Doran

Ethical Dimensions of Academic and Public Debates about Genetically Modified Foods in Australia

Overview: The aim of this research is to examine ethical dimensions of public and academic debates about GM food. To this end, the following will be explored:

- The Precautionary Principle and its application to new technological advances
- The Doctrine of Substantial Equivalence
- Genetic Integrity and Genetic Trespassing
- Consumer sovereignty and labelling
- The Development of Nutraceuticals and Biopharmaceuticals for third world use

My research project is divided into 2 main sections: (1) theoretical investigation of key concepts in the GM debate with reference to particular issues of concern with plant genetic engineering; (2) some practical ways to better educate the public about genetic technology encouraging consumer sovereignty and risk communication.

OPPE Staff: Lucy Carter and Wayne Hall

Collaborators: William Grey

Ethical Issues Raised by Data Linkage and in the Health Services and Health Research Domain

Overview: Linking multiple data sets particularly in the health services and health research domains commonly involves linkage without consent. This project examines some of the justifications put forward in not seeking individual consent for linkage. The work attempts to clarify what is meant by the term public interest in health research and seeks to offer some practical measures for future linkage projects that may allay public concerns about privacy. The difficulties faced by researchers in obtaining ethical clearance for undertaking linkage are discussed as are issues facing institutional ethics committees in approving such research projects.

OPPE Staff: Lucy Carter

Genes and Criminal Behaviour: A Review

Overview: The sequencing of the human genome has created a renewed interest in the contribution of genetics to socially disapproved behaviour such as criminal behaviour. The potential for science to produce a (partially) genetic explanation for behaviour that is considered problematic and deserving of punishment has significant implications for policy development in many areas, particularly law and public health. Criminologists, lawyers and policy makers in the criminal justice field need to be well informed about the results of research on genetics of criminal behaviour and its limitations, a need that will only increase as genetic research on behaviour becomes more sophisticated. This project aims to review current knowledge of genetic influences on criminal behaviour and make some tentative predictions about the future directions of the field.

OPPE Staff: Katherine Morley and Wayne Hall

The Genetics of Nicotine Dependence: A Review

Overview: Liability to nicotine dependence is at least partially influenced by genetic factors. The magnitude of this influence is estimated at approximately 70%, and candidate genes for nicotine dependence are starting to be identified. The aim of this project is to review the current state of genetic research on nicotine dependence, and to examine the policy and ethical issues that would be raised by the use of this information.

OPPE Staff: Cerys Jones (supervisors: Wayne Hall and Katherine Morley)

Governance of Human Genetic Biobanks and the Interface with (Prospective) Human Genetic Research: Ethical Legal and Regulatory Implications

Overview: The thesis will focus on the governance of DNA biobanks and the interface with the conduct of prospective genetic research. The research will involve an in depth comparative analysis of this interface (drawing on national and international frameworks), with particular interest on the impact of governance of biobanks on prospective genetic research into susceptibility of disease and diagnostic indicators via pharmacogenomics in mental health disorders (such as schizophrenia).

OPPE Staff: Jennifer Fleming and Wayne Hall

Collaborators: John Macmillan and David Weisbrot

The Meaning of "Genetic" Disorder Attribution for People in Families with Disorders of Multifactorial Aetiology

Overview: Participants in studies of complex genetic conditions often express concerns about: 1) their wish to not pass on any genetic predisposition to their children, and 2) feelings of guilt and anxiety about having done so if their children become symptomatic and/or diagnosed with a genetic condition. This project aims to investigate how people involved in genetic studies understand, communicate about, and cope with the possibility that they, or someone in their family, have a medical disorder that could be influenced by genetics. It also aims to examine the experiences of people who have participated in genetic studies of common medical disorders.

OPPE Staff: Katherine Morley and Wayne Hall

Collaborators: Susan Treloar and Sandy Taylor

Using Genetics to Understand and Increase Smoking Cessation

Overview: Over a quarter of the Australian population continue to smoke cigarettes despite numerous public health campaigns concerning the adverse health effects of smoking. While some smokers have no desire to quit, for many the process of quitting is difficult, with less than 5% of unassisted quit attempts proving successful in the long term. The overall goals of this project are to investigate how genes and environment influence smoking cessation, and whether genetic information could be used to assist in selecting smoking cessation aids, such as nicotine patches or pharmaceutical drugs.

OPPE Staff: Katherine Morley and Wayne Hall

Collaborators: Susan Treloar, Nicholas Martin, Pamela Madden, Andrew Heath, Michael Lynskey