the social science stem cell initiative

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

Mapping Stem Cell Innovation in Action

This two year project focuses on the prospects and problems of stem cell research and cell transplantation in the fields of diabetes and liver disease, particularly the interactions between 'the bench and the bedside'. The project thus explores how a new technology might be encouraged or prevented from diffusing from the lab to the clinic. A study of an international UK centre at the forefront of stem cell research for the treatment of liver disease and diabetes was carried out, which included observations in labs and at relevant scientific and medical conferences; ethics discussion groups with scientists and clinicians; interviews with clinicians, scientists and other personnel. This was contextualised more broadly through interviews with other key UK and US stakeholders.

We have published/submitted 19 articles. Our papers are aimed at a variety of audiences, including users, practitioners and academics. We explore a variety of issues, for example, ethics and embryonic stem (ES) cell science; scientists' expectations of ES cells as a potential cure for diabetes; scientists' genetic practices and changing expectations on ES cell therapy for diabetes; and practitioner perspectives on the prospects of stem cell treatment. In this short summary we highlight two main sets of findings on ethics and expectations.

Firstly, we are one of the first research teams to analyse how UK scientists involved in embryonic stem cell science practice ethics in the lab. In brief, we explore three key issues: what individual scientists themselves view as ethical sources of human embryos and stem cells; their perceptions of human embryos and stem cells; and how scientists perceive regulatory frameworks in stem cell research. We argue that these dimensions of laboratory practice are all examples of 'ethical boundary-work' where our scientists present themselves as ethical, as well as expert, actors. We illustrate how scientists play active roles in shaping regulatory arenas and making moral judgements that can conflict with moral claims embedded in legislative frameworks. For example, we demonstrate how scientists maintained a relatively conservative ethical stance when deciding which embryos they would work on, even when established policy guidelines argue that such moral issues are resolved.

Secondly, we explore scientists' views on the problems and prospects of stem cell science and therapy in the potential move from bench to bedside. We identified two main discourses on expectations for the translation of research from bench to bedside in the area of diabetes: institutional influences on interactions between scientists and clinicians; and the unique difficulties of stem cell science itself as a major barrier to potential future therapies. We illustrate how scientists dampen down expectations of stem cell research which marks out to clinicians in particular, that the research programme is highly vulnerable. In addition, it distances scientists from over-expectations in the current bench-bedside drive. We also describe some of the ways in which the cultural divide between clinicians and scientists may potentially be overcome by, for example, promoting mutual respect and a willingness to 'learn' an alien scientific or clinical language, which can result in a more collaborative approach to translational research.

More broadly, this study has contributed to public and professional debate about stem cell research and therapies through a comprehensive dissemination programme which entails nearly 50 presentations to diverse audiences, including scientists, clinicians, and the public. In addition, our two end of project multidisciplinary workshops on 'expectations' and 'ethics' in the field of stem cell therapies further engaged with and disseminated to a wide variety of stakeholders. Three additional grants have recently been awarded to members of the project team, which will enable aspects of this research to be followed up in more detail.

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