

**Health and Social care Committee**

**Access to medical technologies in Wales**

**MT ToR 31 ESRC Centre for the Economic And Social Aspects of Genomics**

**The ESRC Centre for the Economic  
And Social Aspects of Genomics**

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**Access to Medical Technologies in Wales  
Comments from Cesagen on the scope of the inquiry**

In defining the scope for the Access to medical technologies in Wales Consultation, we suggest for consideration a set of relevant questions. In this submission we identify these issues and explore a range of potential outcomes.

Key issues:

- 1) What is a medical technology (1): high tech or low tech?

The term technology can be interpreted in a wide variety of ways and there is a need to be clear of one's own interpretation while acknowledging that other interpretation exist. For example, if we consider illness related to an aging population, then medical technology could include the hi-tech, such a foetal transplants into the brain to address Parkinson's disease, or the low tech, such as an alarm buzzer or appropriate banisters in a corridor or toilet. In the case of obesity, a definition of medical technology could include adjustable gastric bands, posters promoting exercise, or smart

phone apps. All could make a real difference to patients' experiences.

- We suggest to the committee a broad definition of medical technology that includes important but low tech technologies.

## 2) What is a medical technology (2): biological objects that blur boundaries

Some cutting edge technologies, for example tissue engineered or stem cell technologies, inherently blur the boundaries between technology and transplant. Let us return to the example of the foetal transplants into the brain to address Parkinson's disease, as pioneered internationally by the group of Prof Steve Dunnett at Cardiff University School of Biosciences. Their research aims to take cells from aborted fetuses, collected from South Wales hospitals, and culture them in the laboratory into a single cell suspension that, under certain conditions, is hoped will stimulate brain tissue repair in patients with Parkinson's disease. This could be thought of as a transplant and a matter of surgery, as biological material is removed from one (foetal) human body and transplanted into another (patient) human body. Alternatively it could be considered a medical technology as the cells undergo significant processing before being placed in the patient. Similar ambiguities exist in tissue engineering contexts to address a wide variety of health issues. Our research at ESRC Cesagen has documented how this ambiguity led to a period of regulatory uncertainty. In response the Medicines and Healthcare products Regulatory Agency (MHRA) is using a complex system of categories including Advanced Therapy Medicinal Products, Medical Devices, and Combination Devices.

- We advise the committee to include medical technologies that blur these boundaries as excluding them may limit the broader findings.

## 3) What is a medical technology (3): object or object context?

A straightforward understanding of medical technology might limit the interpretation to objects. A medical technology is a physical object, like a hip replacement prosthetic implant or an alarm buzzer, that can be held or seen and is a discrete item. A more complicated understanding of medical technology could be the object context, which could include the prosthetic implant and the context that allows it to work, including the expertise of the surgeon, the hospital in which the operation is conducted, and possibly even the staff who clean the corridors. Another example would be the alarm buzzer and the staff rota in a care home that ensures there is someone present to answer when the alarm is used.

- We advise the committee to take seriously the object context as these social structures are essential enabling factors in the successful use of medical technologies.

#### 4) Who is accessing the medical technology: Patients, medical professionals, researchers?

The committee need to define the scope for who is doing the accessing, who is using medical technologies. One obvious answer might be patients. But it is important to remember that professionals in the healthcare and research sectors are also users (as well as developers) of medical technology. The extent to which these professionals get access to both the technologies and knowledge of how to use them impacts upon patient experience. Yet the mechanisms and challenges involved in accessing medical technologies for healthcare professionals can be quite different from those facing patients.

We would steer the committee away from assuming a linear model of the passage of medical technologies from researchers to practitioners to patients, as this model is not always appropriate. In practice the translation of new medical technologies from ‘bench’ to ‘bedside’ proves to be much more circular in nature, with researchers developing new medical technologies responding to the needs and experiences of clinical and patient viewpoints.

Indeed in cases where human tissues are used in developing the technology, the patient, or a donor, may be essential for researchers to access material upon which medical technologies are formed.

- We advise the committee to take account of the access issues facing professional groups in the development, distribution and use of medical technologies.

5) What spaces are medical technologies being accessed in: hospitals, care homes, family homes? Wales, the UK, the world?

A spatial analysis of medical technology use in Wales should compare regional differences. But it is also important to inspect more micro-spatial issues. Where medical technologies are accessed and used impacts upon their usefulness in important ways that relate to the object context discussed above. An alarm buzzer in a care home is different from an alarm buzzer in a private home. Extending the scope further, patients can access medical technologies and information about medical technologies both in local hospital type settings and through the internet and travel. One example from our research at ESRC Cesagen is Mitochondrial disease for which currently patients can only access specialist advice in England. Another is medical tourism, such as the examples of Welsh patients conducting fund raising activities to permit travel to one of a number of countries, such as China or the Dominican Republic, where relatively untested treatments based upon injections of stem cells into the body are conducted.

- We advise the committee to adopt a focus upon the local spaces in which medical technologies are accessed (or where access is unsuccessful) to explore how different settings – hospitals, doctors surgeries, care home, private homes etc – avail different forms of access and use. It is unclear to us whether the committees' efforts are best placed patients accessing medical technologies beyond Wales.

