In this issue

Debating Diabetes

Priming for policies

1921. Insulin is discovered. 1984. Production of human insulin using DNA recombinant technology.

Those who thought they had diabetes under control, were soon disappointed. Diabetes type II, insulin-resistant diabetes, was on the rise. And the treatments were killing diabetic patients: heart or kidney failure – diabetes doesn't kill. Medicines do.

In a General Article on **page 2379** in this issue, M. S. Swaminathan and P. C. Kesavan use the diabetes research centre in the Voluntary Health Services, a hospital that serves a thickly populated area of Chennai, as case study. They recount the failures of using the results from randomized clinical trials – trials that churn out new drugs and their minor variations. Shifting the strategies from the glucose centric, cell centric notion of diabetes, the hospital uses a holistic approach to health care, giving attention to human, social and economic parameters. Accepting all existing tricks and tips from local traditional schools of medicine, the hospital manages to reduce the problem of diabetes in the population they serve.

Taking this as an example, the authors argue that it is indeed possible to have a health care system that provides health care to all citizens, regardless of their economic status.

The authors derive a lesson from this, useful for their own area of action: food for all. A discerning reader will distil the implications to education for all.

Preventing Plagiarism

Looking for laws

School students gladly cut and paste content from the Net as their science projects. Besides parents helping out, there are commercial services to complete your work if you have money. Most schools have no difficulty with the arrangement. This educational environment is conducive to the development of a viewpoint where plagiarism is not considered morally wrong, by the time the student reaches the tertiary levels.

But, by the time the student graduates to a Ph D, there are lectures and cautionary warnings: The Internet which spawned the era of cut and paste also provides plagiarism checks. Yet, there is a significant amount of plagiarism. Those who do it do not feel a twinge of conscience.

Ethics, the code of behaviour prescribed for a community, often diverges from the morality dictated by the individual's sense of right and wrong. If there is a breach of ethics, the disdain and contempt of peers will need to be faced. A good enough deterrent from indulging in plagiarism. For most. There are, however, a few who overstep these ethical boundaries.

Where morality and ethics fail, law has to step in. Is there a need to have a law to address plagiarism? This question has been raised on several platforms in the recent past. In a General Article in this issue, R. Saha points out that the Intellectual Property Rights include Authorship rights and, thus, the Copyright Act itself can be applied in the case of plagiarism. Read on from **page 2375**.

Better Bandages

Tissue Engineering

A scratch, a cut, a wound on skin sets off an immediate response from nearby cells, inviting the immune system's attention to the breach of skin integrity. Epidermal and dermal cells, the extracellular matrix, plasma-derived proteins, growth factors, and an array of cytokines all act together to restore the continuity and integrity of damaged skin. Most often skin heals on its own. But there are times when it does not. It can get infected. And in some cases, as in diabetic patients, the wound can fester and become chronic.

People have tried all types of management strategies including honey, mud, leaves, cobwebs, oil, fats and animal dung to stop bleeding, to absorb exudates from the wound. Towards the end of the twentieth century, antisceptic washes, permeable and non-occlusive gauze and cotton bandages along with antibiotics became a standard treatment strategy. Those who have gone through it will remember the pain when the dressing is removed. But the times are changing. Our understanding of the wound healing process has become more nuanced and we are able to leverage the treatment on a wide variety of materials: natural polymers such as collagen, gelatin, alginate, chitosan, hyaluronic acid, keratin, cellulose, silk sericin as well as synthetic polymers in combination with hydrocolloids and hydrogels. These have made the healing of wounds faster and less painful.

In a Review Article on **page 2392** in this issue, researchers from the VIT University, Vellore, survey publications and patents from recent years. They include the attempts at commercialization of new wound dressing materials, the products available for skin tissue regeneration and their economic implications on patients. The authors foresee a more widespread use of stem cells derived from the patients themselves, in the near future.

Meat of the Matter

Fingerprinting food products

Two scientists were at an international airport. While they waited for their flight, they meandered into a shop where canned meat was sold. The can showed pictures of deer, whose flesh is a rare delicacy. So they bought two cans.

But, being scientists, they had a doubt: was this really deer meat? The scientists collaborated with others across national borders and used their tools to extract, purify, amplify and sequence the mitochondrial DNA from the meat, ran it through a BLAST search and found that the meat was actually just domestic pig.

Recounting their procedures, the scientists call for more stringent monitoring of food products and suggest the use of DNA fingerprinting tools to detect the false labelling of food products.

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