Cardiff Medical Society Meeting 8th January 2008

"The Global Health Agenda"

Sir Leszek Borysiewicz , Chief Executive Medical Research Council.

Sir Leszek thanked Dr Andrew Freedman for his kind words of welcome and thanked Cardiffmedical Society for the invite to come back to Cardiff to address the society.He then started his address by reminding us of The Millennium Development Goals. In 2000, Millennium Development Goals were agreed - 191 countries agreed on goals that they would aim to achieve by 2015.There were many goals but only 3 of them were directly health related.However all of the goals have a health related component. Current indications are that many low income countries will fail to achieve the targets by 2015.
Why is there a problem?
Health as a "foreign policy" perspective.
In resource rich countries - health is used for other gains for example law,order or terrorism. Health can be perceived as a bargaining counter.
In resource poor countries, health is a priority but is not THE priority (which is often wealth creation).

Problems of sustainable development are at the heart of a global perspective for public health.

Sir Leszek stated that he would look at 3 areas:

1. Diseases due to unsafe water.

He commented on the fact that a lot of work is being done on vaccines but the key is access to a clean water supply. 83% of the world's population now has access to clean water. Water use is increasing. 70% of all freshwater use is in agriculture - 1000 tons of water are needed to grow 1 ton of grain.

Improve sustainable supply - technology.
Energy supply . World energy demand is increasing due to demography and lifestyle. Hydropower accounts for 19% of electric production and 16% of world food production.
Change agriculture practices
Change crops.

Is the world water supply in crisis?
Not yet but major innovation is needed in multiple sectors - agriculture, industry, energy supplies,water borne diseases. Commercial sector has a role. Academic sector has a role.

2. Engineering.

Genetically modified rice - the rice genome was identified 7-8 years ago.It has been possible to modify rice metabolism and as a result to introduce drought resistance and to increase yield by 20%. Although this has been done,the rice has not been used yet as people are frightened of the technology and too frightened to use it.
Sir Leszek then went on to discuss new vaccine delivery systems - but who will be trusted to deliver them, governments? Doctors? Scientists?

Preventative medicine:

Sir Leszek then spoke about preventative medicine - he specifically mentioned cervical cancer and HPV specific prophylaxis and the HPV-16 vaccine trial. He asked what else could be done to reduce the disease burden in resource poor societies? Alternatives to the vaccine

such as visual inspection of the cervix were used in India but was not cost effective as it picked up many who did not need treatment.He also mentioned the applicability of the technology with for example each immunisation costing 40-60$ in Gambia where 13% are carriers of HPV.

Sir Leszek informed us of the success of the Schistosomiasis Control Initiative which is working with countries trying to establish sustainable nationwide programs to control schistosomiasis.The program is already running in Uganda and Sir Leszek showed a film illustrating schistosomiasis control in Uganda.With support from WHO a program for treatment and research has been launched and the price of praziquantel has reduced dramatically. The Schistosomiasis Control Initiative has initiated action directly in many countries. By 2007 14.9 million people had already been treated with praziquantel out of the 15 million target.The program has been expanded and 12 countries have now produced a national plan for control of schistosomiasis.

3. Chronic Disease

Sir Leszek went on to speak about the grand challenges in chronic non-communicable diseases. Chronic diseases are a worldwide problem.The 4 main chronic diseases (cardiovascular disease,cancer,chronic respiratory disease and type 2 diabetes) account for 60% of all deaths worldwide and 80% of all deaths from these diseases occur in low to medium income countries. With concerted action he commented on how we could potentially avert at least 36 million premature deaths by 2015.This will need to be done by a combination of ways - whilst raising public awareness,modifying risk factors and re-orientating health systems towards primary prevention are all important, these grand challenges will not be solved by medical intervention alone.Changes are needed in economic,legal and environmental policies.

At the end of the lecture Sir Leszek mentioned the United Nations Inter-academy Council Report of 2004 which addresses the topic of inventing a better future and what countries can

do for themselves.A strategy for building worldwide capacities in science and technology is required - the world is changing at a rapid pace,driven by science and technology. Sir Leszek stressed that the inter-academy council report did not promote non targeted expansion but restricts expansion to 3 main areas:

1. Agriculture (water)
2. Engineering (food crops)
3. Health

- the 3 areas that Sir Leszek had discussed in his lecture.

In conclusion Sir Leszek commented that technology plays a major role in sustainable development but must be both appropriate and affordable.Investment in education and capacity building is essential for sustainability. Industry and the commercial sector has the only viable development capacity for technological improvement but with a conflict of motivation. Government and agency support is also valuable but again has inherent problems. Multiple partners must help to harness opportunities.