

## Cancer in developing countries: challenges and solutions

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In 2002 there were 5.1 million new cases of cancer in developed countries and 5.8 million new cases in developing countries. However, by 2020 it is predicted that the majority of the 15–20 million new cases of cancer will occur in developing countries [1, 2]. A third of these cancers are preventable and another third are treatable if detected early.

The most prevalent cancers in developing countries are associated with infections with viruses such as the human papillomavirus (cancer of the cervix) and hepatitis B virus (liver cancer). Lifestyle changes with regard to diet and exercise are rapidly occurring in most developing countries as these countries develop and move towards urbanisation and modernisation. In addition, tobacco use is on the rise in these countries where protective legislation is weaker or non-existent and the populations less informed. Most cancer patients in developing countries (75%) have advanced or incurable cancers at the time they present to the health system for diagnosis.

For the first time, the biennial European Cancer Conference (ECCO) 13 had a satellite symposium focused on the rapid rise in cancer incidence and prevalence in developing countries. Oncologists, healthcare professionals, managers from private industry, and representatives from international or non-governmental organizations met in a pioneering symposium, organized by Axios, to discuss the rising incidence of cancers in developing countries and the possible responses to it. Dr Hakan Mellstedt, President of the European Society for Medical Oncology (ESMO), chaired the symposium. Representatives of universities, the World Health Organisation (WHO), tertiary hospitals in developing countries and the pharmaceutical industry presented perspectives and individual experiences with cancer care in the developing world.

The symposium highlighted not only the rising problem of cancer in developing countries, but also possible solutions. There was broad consensus that efforts and scarce resources in developing countries should focus first and foremost on prevention and awareness raising and secondly on early detection. Treatment and research were considered lower priorities in resource constrained settings.

However, prevention cannot stand alone without proper cancer surveillance and cancer control systems. There is

a significant lack of relevant cancer data from developing countries and research capacity is almost non-existent. Most cancer registries in these countries do not function and screening programs are largely absent. These issues are major challenges for the future. In addition, most health systems in developing countries are not set up for chronic disease management and chronic diseases such as cancer are often lost to follow-up.

There are, however, examples of successful cancer initiatives in developing countries with limited financial resources. The WHO has made cancer in developing countries a priority. It has produced key guidelines to assist developing countries to establish national cancer control programs that are relevant to their settings [3]. These can lead to an impact on cancer even in the least developed countries. One case in point is Sudan, which has prioritized breast, cervical and oral cancers and made prevention, early detection, improved treatment and palliative care for these cancers available. This included public awareness campaigns, education of medical professionals and screening programs [4].

Another innovative example of cancer care in a resource-constrained setting is that of Cambodia where an American organization is providing telemedicine in an extremely remote rural area of Cambodia. This approach has helped in the diagnosis of acute, as well as chronic, conditions such as cancer. There has already been a remarkable improvement in the quality of care for patients in this remote area of Cambodia. The issue with regard to the reproducibility of this technology in other resource-constrained settings is of course the cost and the availability of Internet services [5].

The pharmaceutical industry has also contributed to finding innovative ways to create access to cancer treatment in developing countries. Glivec is an innovative oral therapy for chronic myelogenous leukemia and gastrointestinal tumours. Novartis has made this drug available free of charge to patients in 81 countries in cases where the patients cannot pay. Treatment centres in developing countries are evaluated in terms of oncology and hematology expertise as well as diagnostic and monitoring capacity. If they are found to be qualified, then physicians from the centres are able to submit applications for Glivec for patients. Globally, more than 9300 patients have benefited from Glivec. Fourteen thousand new patients are expected to benefit from Glivec through this program in 2006 [6].

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There is growing awareness of the magnitude of the growing cancer problem in the developing world. The challenges are substantial and many, and include:

- Insufficient political priority and funding amongst donor agencies and governments of developing countries that have many competing priorities.
- Limited ability to influence big business interests (i.e. tobacco) or lifestyle changes following modernisation and urbanisation.
- Fragmented and underfinanced health care systems that have not been set up for chronic disease management.
- A lack of cancer awareness, knowledge and capacity amongst health workers.
- Lack of diagnostic and treatment capacity.
- Too few effective cancer medicines that are easy to administer and do not require hospitalization.
- Weak referral systems.
- Very limited data on cancer in developing countries due to lack of functioning cancer registries.

The challenges are indeed great. However, there is increasing international and national attention to this problem. There are also a growing number of examples of countries, organisations and businesses that have tried to address the problem of cancer in poor populations, sometimes in very

innovative ways. If we are to effectively prevent, detect and treat the rising number of cancers in the developing world, then we need a broad partnership of research institutions, international organisations, national governments in developing countries, the pharmaceutical industry and international normative organisations such as WHO and ESMO.

## disclosures

Dr Reeler works for Axios International, the organisers of this symposium. Professor Mellstedt has nothing to disclose.

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