

Global Health Council

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Feature: Addressing the Cancer Crisis in the Developing World

Addressing the Cancer Crisis in the Developing World

A visiting doctor in Tanzania got a double surprise during a two-week clinical visit from the United States. Not only was his 36-year-old stage IV cervical cancer patient being seen by a physician for the first time, but her back was pocked with deep scratch marks from the twice-weekly treatments of a healer. The healer, from the patient's rural town, made incisions on her back and then tucked in herbs to stem the cancer. She died on his last day in the country. As he watched the staff prepare her to be taken home for burial, he ticked off some things that might have saved her life: funding for awareness and prevention campaigns, trained doctors and nurses in her town, access roads that would allow her easy passage to the central hospital for treatment, community education to shift the reliance on healers to doctors trained in modern treatment methods, and, even if her cancer could not be cured, at least some morphine – in short supply in this part of the world – to ease her pain at the end of her life.

| Rank | Site | LDC Annual Incidence | LDC Annual Mortality | Link to Infection? | Risk Factors | Developed Country Rank (Incidence) |
|------------------|---------|----------------------|----------------------|--------------------|---|------------------------------------|
| 1 | Lung | 672k | 591k | | Tobacco Use (20-30 year lag in impact) | 1 |
| 2 | Stomach | 619k | 485k | ✓ | <i>H. Pylori</i> infection salty foods | 5 |
| 3 | Breast | 515k | 221k | | | 3 |
| 4 | Liver | 513k | 467k | ✓ | Hepatitis B, Hepatitis C | 10 |
| 5 | Cervix | 409k | 234k | ✓ | HPV | 13 |
| Total (top 5) | | 2.7 million | 2 million | | | |
| Total, All sites | | 5.8 million | 4 million | | | |

Sources: GLOBOCAN 2002, Karamanoglu et al. JCO 2004

Unfortunately, this woman's story is far from isolated. According to Franco Cavalli, head of the International Union Against Cancer (UICC), the incidence of cancer is expected to increase globally by 50 percent over the next 15 years, but "by 2020, the developing world is expected to account for almost two-thirds of all new [cancer] cases." Cavalli adds, "Because most of them will have no access to screening, early diagnosis and appropriate treatments, they stand less chance of surviving." The UICC estimates that by 2020, for every one cancer death in an affluent country, there will be three in the developing world.

A 2006 review in *Nature Oncology*¹ says the shift mortality in developing countries can be attributed to cancers linked to a Westernized lifestyle, such as breast cancer, and poverty-linked tumors, such as cervical cancer, which, in many cases, is preventable, but the vaccine for cervical cancer is too expensive for most in the developing world. According to the National Cancer Institute (U.S.), this phenomenon is strongly linked to an increase in the total population – one that is living longer and getting older – and risk factors that include an increase in cigarette smoking, poor air quality, and unhealthy diets.²

Dr. Adamos Adamou, a medical oncologist and chairman of the European Society of Medical Oncology's developing countries task force, underscores the fact that many key cancers in the developing world can be prevented. For example, treating *H. Pylori* could prevent cases of stomach cancer, and immunizations could protect from cervical cancer and hepatitis B – a risk factor for liver cancer. Vaccinating against hepatitis B and human papilloma virus could alone save half a million lives each year by protecting against liver and cervical cancers.

Differences in treatment outcomes are also huge. In the Western world, cure rates for childhood cancers stand at about 75 percent; but those rates drop to 10 to 15 percent, or less, in the developing world, according to a survey in the *British Medical Journal*.³

The UICC is hopeful that the costs of screenings will continue to decrease, making it an affordable option in many developing countries. How to take on such a daunting task Dr. Cavalli says that the implementation of a cancer control plan, encompassing prevention and treatment in each country, should become a declared goal of health policy-makers worldwide. "A first step has been accomplished by the World Health Assembly of the WHO in May 2005, when the fight against cancer was for the first time declared a priority for all governments," says Cavalli. Experts, including the authors of a February 2007 Institute of Medicine report on cancer control in the developing world, say only a broad alliance including non-governmental organizations, private groups and major health charities have the resources to avoid the looming cancer disaster.⁴

Scarce resources compound the problem, according to Dr. Allen Lichter, executive vice president of the American Society of Clinical Oncology (ASCO). Per capita spending in the U.S. on cancer care is \$5,711; in Nigeria, it's \$22. According to Lichter, a key to reducing the cancer burden in developing countries is sharing information, which ASCO is already doing. Efforts include: supporting training and professional development of oncology specialists, building peer and organization networks of cancer experts, and adapting clinical guidelines to local needs and realities.

Currently, government agencies, private donors and pharmaceutical organizations are working to reduce disease and/or the complications of disease through drug donations and programs that improve access to pharmaceutical treatment. These programs were virtually non-existent a decade ago, according to Timothy De Ver Dye, principal and director of research and evaluation at Axios International, a global health-care management firm. But now, he says, programs exist globally to provide drugs directly or enhance access to drugs.

A little known fact is that cancer now kills more people in developing countries than HIV, TB and malaria combined.⁵ The problem is huge and growing. Fortunately there are an increasing number of initiatives on cancer in developing countries, says Dr. Joseph Saba, CEO of Axios International. Saba says some initiatives are local, while others are regional and global and all complement each other. With a local initiative, you can find out what that particular country needs and pilot new types of programs, and this offers important lessons for other parts of the world. The best idea, when possible, is to complement local efforts from countries with a regional initiative where the country experiences can be put in a wider regional perspective and lessons gleaned can be shared across countries. Such regional initiatives can then lead to international meetings where experiences can be shared and where people can be advocates about cancer with international stakeholders and funding agencies.

Saba cites the radiotherapy initiative from the International Atomic Energy Agency as a successful global initiative. The IAEA has set up PACT (Programme of Action for Cancer Therapy) to take radiotherapy to where it is most needed. Through PACT, according to Mohammed El Baradei, director general of the Agency, the IAEA will build partnerships within and among countries, and with United Nations organizations, like WHO, and non-UN bodies. "With enough support, the program could save or improve the quality of millions of lives each year," El Baradei says. Saba also says that as drugs come on line that don't require intravenous administration or refrigeration, people in developing countries will have greater access to care. "That will give patients in developing countries the chance to take a pill and then go back to work, and not just go to the hospital and die," Saba says.

Glivec International Patient Assistance Program

Glivec (Imatinib) is a breakthrough therapy for two rare, life-threatening diseases: chronic myeloid leukemia (CML) and gastrointestinal stromal tumour (GIST). Novartis established the Glivec International Patient Assistance Program (GIPAP), which provides the drug at no cost in developing countries to eligible patients with certain forms of CML and GIST. These patients would not otherwise have access to the drug. Moreover, GIPAP incorporates comprehensive care, such as psychosocial support and educational services.

GIPAP is based on a direct-to-patient program that calls for the delivery of Glivec to individual patients by their treating physicians with close monitoring and follow up care. GIPAP also provides emotional support, information and referral assistance to patients, their family members and care-givers – creating greater awareness about CML and GIST as well as their respective treatment options.

Approximately 24,000 patients in 81 countries have been treated through GIPAP since the inception of the program in 2002. Novartis has established public-private partnerships with a variety of stakeholders, including a network of more than 800 physicians, NGOs as well as local and global health organizations.

GIPAP adapts specifically to each country's own system and environment and customizes operations to reflect local circumstances. Further, the program has implemented a detailed patient follow-up system that stresses compliance and persistency in order to obtain the best clinical outcomes – unique to a program of this kind. Studies will follow to gauge the success of the compliance initiatives. The extensive partnerships that have developed that support the implementation of GIPAP have created a synergistic effect that improves program efficiency by placing the patient and its specific needs at the center of the system.

GIPAP in the Sudan

In the Sudan, cancer is the third leading cause of death behind malaria and viral pneumonia. Yet, obstacles for drug distribution exist even when the drug is free, as is the case with Glivec. Key distribution challenges include the socio-political impact of the country's civil war, illiteracy, lack of access, and logistical impediments.

However, the program is also able to show successes including:

- Lifesaving treatment for patients who would otherwise not be able to afford it
- Improved lab and testing facilities built to support drug donation
- Professional development and staff training at Sudan
- Increased visibility of what can be achieved under arduous conditions
- Improved patient satisfaction and quality of life
- Patient support group

Program managers say that differences among countries must be underscored so that each needs are met. In terms of delivery of care, that could mean, for example, that while a woman with early stage breast cancer in an industrialized nation may choose lumpectomy and radiation as opposed to a mastectomy which, with limited access to radiation therapy, is a choice more likely to treat or delay the cancers' return in the developing world.

An overriding aim of the efforts now being established to address cancer in the developing world is the creation of national cancer control programs that include integrated prevention and treatment approaches, says Dr. Saba. One third of cancers can be prevented and one third can be treated effectively if diagnosed early enough. "Developing countries should benefit from existing knowledge and tools in order to enable them to combat cancer effectively," says Dr. Saba.

For more information on Novartis, visit <http://www.novartis.com>.

References

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- ⁴ *Cancer Control in Low- and Middle-Income Countries*, <http://www.iom.edu/CMS/3783/23083.aspx>
- ⁵ *Cancer Crisis in Developing Countries*, <http://www-naweb.iaea.org/pact/cancercrisis.asp>

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