



Sweden – Zambia Health Cooperation Forum & Expo

Possibilities for Swedish- Zambian Collaboration within Cancer Control and Care

Opening session

H.E. Dr. Joseph Kasonde, Minister for Health, Ministry of Health (tbc)

H.E. Ms. Lena Nordström, Ambassador of Sweden to Zambia

H.E. Mr. Gabriel Wikström, Minister for Health Care, Public Health and Sport, Ministry of Health and Social Affairs

On Tuesday March 24, the Swedish-Zambian Healthcare Forum on cancer control and care was held. The forum was opened by the Zambian Minister of Health, Dr. Joseph Kasonde. He welcomed the Swedish delegation, this time, as he has done during the previous delegations and as he hopes to do in the future. His second message was that Zambia and Sweden have the common view of the private sector as a partner to the public sector, in the health sector and in other sectors. He pointed out that cancer is an important area, as more people in the world die of cancer than of malaria, tuberculosis and HIV together. After Dr. Kasonde, Ambassador Lena Nordström spoke about Swedish innovations, and their contribution to the development of health care. Swedish cancer is well known, but we also need to learn from others, collaborate and continue to come up with new solutions.

The opening ceremony was concluded by the Swedish minister for Health Care, Public Health and Sport, Gabriel Wikström, who mentioned the Memorandum of Understanding between Sweden and Zambia in the field of health, and the diversification of contacts and cooperation between stakeholders in the public and private sectors and academia, where today's forum is an excellent starting point. Sweden wants to cooperate internationally because we want to and we need to, as no country can find all the solutions by themselves. The point of departure for our two countries may be different, but the goal is still the same - equal access to safe and effective health care for all.

Key note speeches: The Cancer Situation in Sweden and Zambia – an overview

Prof. Roger Henriksson, Head of the Regional Cancer Center Stockholm Gotland

Dr. Kennedy Lishimpi, Executive Director, Consultant Clinical Oncologist, CDH

Our keynote speakers were Prof. Roger Henriksson from the Regional Cancer Centre Stockholm-Gotland and Dr. Kennedy Lishimpi, Cancer Diseases Hospital, Lusaka. We heard about the Swedish perspective on meeting future challenges with increasing cases of cancer, with a focus on prevention, individualized treatments, etc., and how Zambia plans to develop its cancer care, including expanding the CDH in Lusaka, developing satellite clinics in other provinces, PPPs (public-private partnerships), more screening and prevention etc.

After this, it was time for a coffee break, with the opportunity to visit the companies' exhibition table, something which the two ministers took the opportunity to do.

Prevention, Screening and Diagnostics

NCD Prevention and Control in Sweden, Johan Carlson, Director General, the Public Health Agency

National Cancer Control strategy for Zambia,

Dr. Richard Nsakanya, Innovation and Scaling up of the cervical cancer prevention and screening programme in Zambia,

Dr. Sharon Kapambwe, Cervical Cancer Prevention Programme in Zambia

Swedish solutions for screening and diagnostics: Gynius; Hemocue

Prevention was the topic of the next speaker, *John Carlson, Director General* of the Public Health Agency of Sweden. Non-communicable diseases are the leading cause of death worldwide, causes 68% of global deaths in 2012, with cardiovascular disease being the leading cause (44%) and cancers the second (22%), with a large increase expected in the coming years due to risk factors such as behaviour (mainly tobacco use, physical inactivity, harmful use of alcohol and unhealthy diet), infections and environmental and occupational exposures to radiation and similar. To improve treatment of cancers, the Swedish cancer registry was founded in 1958, with appr. 60 000 of malignant cases of cancer registered per year. The purpose is to monitor cancer prevalence and changes over time. It shows e.g. that during the last two decades, the average annual increase in the number of cancer cases has been 2.2 % for men and 1.8 % for women. The increase is partly explained by the ageing population, but also by the introduction of screening activities, improvements in diagnostic practices and exposure to various risk factors. Breast and prostate cancer are the most common cancers in women and men respectively, representing almost 1/3 of the cases in women and men. Even if cancer has - relatively speaking - become a more common cause of death, mortality due to cancer has decreased over the last decades.

Dr. Richard Nsakanya spoke of the *Zambian National Cancer Control Strategic Plan*, which also emphasizes the importance of prevention, and gives priority to cancers: cervical, prostate, retinal blastoma and chest. The plan aims to increase public awareness for these diseases, improve diagnosis and treatment, improving the referral system, and for cervical and breast cancer scale up screening. Other important areas are palliative care, human resources, medicines, infrastructure, including medical equipment, and leadership.

The next speaker was *Dr. Sharon Kapambwe*, who spoke about innovation in cervical cancer screening. From 2003, when 95% of women had never had a pelvic examination and diagnosis was done by a resource-consuming doctor-led PAP smear, to date, when more than 200 000 women have been screened for cervical cancer using VIA, adapted to Zambian conditions: which means available, low cost, optimum reliability, same visit treatment of pre-cancers through LEEP and cryotherapy, safe and accepted, and relatively easy to implement. Another part is mobile-phone tracking of patients for follow-up and treatment, facilitated by the need to register SIM cards, which has led to a return rate of appr. 80 %. The process for scaling up screening consists of determining who can screen and the number of test sites, where priority is given to provincial hospitals, followed by district hospitals (26 out of 104 are now done) and then health facilities. A platform for HPV-vaccination is also in place, with a pilot ongoing in three provinces covering 60 % of 9-13 year old girls.

Linked to the section on prevention *Dr. Elisabeth Wikström Shemer* founder of the company Gynius, told us about the Gynocular, the world's first portable colposcope, for screening of cervical cancer. It can be connected to a mobile phone camera for taking and sending high quality images that allows telemedicine consultation. It can thus be used to document, teach and consult. Studies also show that the risk of over-treatment decreases when the Gynocular is used. Our other company under this section was Hemocue, represented in Zambia by MM African Technologies. Hemocue provides lab-quality the point-of-care testing of e.g. HB and white blood cells, a robust solution that is battery-operated, easy to handle and gives the result in just a few seconds.

Treatment: Radiation

Innovative radiation: the importance for radiation treatment and innovation, Peter Söderman, Dep't of Development and Innovation, Karolinska University Hospital

Current and future Radiation services in Zambia, Dr. Catherine K Mwaba, Clinical and Radiation Oncologist, Cancer Diseases Hospital

Swedish solutions for radiation therapy: Elekta

The Forum continued with a session on radiotherapy, where *Peter Söderman*, Karolinska University Hospital, spoke about the present and the future of radiation therapy, with increased accuracy and speed in all parts of the treatment process; from pre-treatment imaging, via treatment planning and quality, to treatment and follow-up. In the future functional imaging, such as PET-MRI, and individualized, biology-guided and adaptive radiotherapy. New technologies improve the precision of therapy delivery. Advances in engineering, physics and tumor imaging will allow us to more precisely target tumors that move during therapies. Advances in precision will be able to deliver radiation therapy in a much shorter time period and integration of radiation therapy with newer therapies such as, immunotherapy will also improve treatment. Finally, there will also be developments and advances in the use of tools to better personalize our oncology care.

Dr. Catherine Mwaba from CDH then gave us a review of how the radiation treatment has developed in Zambia, largely thanks to the IAEA Human Health Services. Zambia has previously sent cancer patients to Zimbabwe or South Africa, at a cost of appr. 10 000 usd/patients – which allowed for only 350 cases out of 5,000 requiring radiotherapy were sent abroad between 1995 and 2004. Radiation treatment has now developed through the establishment and expansion of CDH. It now includes one linear accelerator, brachytherapy, 2 Cobalt machines, a treatment planning system and a simulator. The Phase II of CDH expansion, with in-patient facilities is planned to open in May 2015. The challenges are getting the equipment affordable (the capital and maintenance costs are extremely high), appropriate (functionality for the entire life cycle of a unit must be ensured) and suitable for the needs (considering the difficult environmental and resourcing conditions in Zambia). This can hopefully be met with the Phase III-expansion of radiotherapy services

Erik Leksell from Elekta concluded the session with a presentation on how to contribute to the fight against cancer in Zambia. In 2020, 70% of all cancer cases are in the developing world. Often you have to combine methods of treatment, but radiation therapy is the most cost-effective treatment, and the fastest growing. Elekta offers radiotherapy solutions, such as external beam radiation therapy through VMAT or stereotactic radiosurgery, and brachytherapy. Furthermore the company has a strong focus on education and training, which is included in its offer. Their oncology information system, Mosaiq, can contribute to planning and management as well as to linking a centre of excellence with satellite clinics.

Treatment: Surgical oncology

Surgical management - a model for international cooperation, Prof. Jörgen Larsson, Professor of Surgery, Director of International Affairs, Dep't of Development and Innovation, Karolinska University Hospital

Surgical Management of cancer in Zambia, Dr. K Mwala, General Surgeon, University Teaching Hospital

The next block was about surgical treatment of cancer, which *Professor Jörgen Larsson* speaking on how Sweden has developed the treatment of colorectal cancer with features including minimally invasive techniques and work in multidisciplinary teams. This has led to better survival rates. He also raised the model Karolinska University Hospital has developed international cooperation. The model consists of

- cross-border health care (physical patients and digital services such as tele-guided surgeries at a distance);
- second opinion, medical and management consultancy through telemedicine solutions and telemedicine multidisciplinary team meetings with a care chain;
- education e.g. specialized and sub-specialized training and exchange of expertise; and
- joint clinical research and development projects.

Professor Larsson ended his presentation by stating that Karolinska often works with a triple helix strategy, where academia, the industry and the public sector work together for the development of the health care sector, and also adding international collaboration. Collaboration benefits all, leading to new knowledge of diseases, developed care, stimulation of research and innovation as well as a great value for recruitment of motivated staff.

Next we heard *Dr. Kabisa Mwala* on surgical management/services for cancer care in Zambia. These are not fully developed, and there are no surgical oncologists. Very few operations for rectal cancer patients are performed at UTH, while most patients are left without surgical procedures, one reason being distance to specialized care at UTH. Another problem is the Zambian way of thinking that if it doesn't hurt, it's not a big problem, leading to late presentation of cancers. The way forward according to Dr. Mwala is to focus on capacity building, increasing the human resources and equipment and to reduce the gap in health care provision.

Treatment: Medical oncology

Challenges and Opportunities in Modern Medical Cancer Treatment, Prof. Roger Henriksson, Head of the Regional Cancer Center Stockholm Gotland

Innovations in Oncology Pharmacy in Zambia, Mr. D Kalolo, Pharmacist CDH

Swedish solutions for innovative medical oncology: AstraZeneca

The session on medical oncology was initiated by *prof. Henriksson* on modern medical cancer treatment. The next major steps in medical treatment will be cancer vaccinations and medications that target the cellular level. One problem is that only certain subgroups respond well to this type of treatment. For example, it has been shown that women, non-smokers and people from Asia respond better to certain types of treatment. How should these groups be identified, and who will get this new type of treatment? Who should not receive it, considering that it does not lead to optimal effect for that particular patient group? Professor Henriksson also said that the division radiotherapy, chemotherapy and surgery will most likely persist in the future, but new combinations will be used. The future is in an individualized care, with medications that target the biological mechanisms at the cellular level, for specific diseases and for the specific patients who can best take advantage of these medications. This enables to provide the right treatment to the right patient at the right time and the right place.

Dr. Donald Kalolo, pharmacist at CDH, gave the background on pharmacology development at CDH. To start with, there was only one pharmacist, with poor access to medicines and limited infrastructure. Zambia has no oncological training in pharmacology, but now there are 8 pharmacists and three technicians at CDH. There are also plans to expand to 27 more pharmacists. An improvement can also be seen in pain management, availability of more chemotherapy drugs, and satellite clinics have been established at provincial hospitals. There is now a strong interest in cooperation in clinical trials, as a way to develop the oncology pharmacy in Zambia further.

After the experts' presentation *Francisco Milho*, AstraZeneca, spoke about the solutions available within the company, FFA in oncology. The company has been present in Africa for several years, and

runs among other things an interesting programs related to increased awareness about breast cancer, which is implemented in Ghana, Kenya and South Africa. The program aims to support healthcare professionals and volunteers, show different treatment options, build knowledge and raise awareness about breast cancer in general. The goal of the program is to contribute to early detection, better access to healthcare and medicine, increased awareness of breast cancer in general. The goal of the program is to contribute to early detection, better access to healthcare and medicine, increased awareness of breast cancer.

Organization, innovation and cancer care

The Test bed for Innovative Radiation Therapy, Prof. Jörgen Larsson and Peter Söderman, Dep't of Development and Innovation, Karolinska University Hospital

Assessing the costs and benefits of medical treatments, Douglas Lundin, Chief Economist, the Dental and Pharmaceutical Benefits Agency

Swedish solutions for innovative organization, management and telemedicine: Helseplan; MedcardApps

Peter Söderman opened the session on innovation and organization within the cancer. As the number of cancer cases is increasing rapidly, we need to find better and more effective methods of treatment, which in turn requires cooperation. In Sweden, this has been done by all teaching hospitals joining forces so that all have access to clinical outcomes, different user environments and expertise. It provides the opportunity for companies to test new technologies and methods with a larger patient base, while the hospitals and the patients may have access to innovations and participate in the development of treatment methods. Examples are the test bed for innovative radiotherapy, and the national database where treatment plans are linked to diagnosis-specific quality registers, providing data for comparisons and research. Mr. Söderman also mentioned projects within the MRI and innovative dose planning, where Zambia could be an interesting partner.

The next presenter was *Douglas Lundin*, chief economist at the Swedish Dental and Pharmaceutical Benefits Agency. The agency looks into which drugs should be subsidized by the government. New treatments need to provide good value for money before they are commonly used. Cost-effectiveness comes first. Three important questions are put in order to decide on the cost-effectiveness: if the treatment extends life – then by how many years (what is the cost per life year gained); if the treatment improves the quality of life – then what is the cost per unit of quality of life improved; if both – then what is the cost per quality adjusted life years (QALY) gained. The difficult part is of course to determine what the acceptable level of cost/qaly gained is. It is also important to look at the opportunity cost, i.e. if we spend a certain amount of a certain treatment, what do we have to give up; what is it that we cannot do? A guide in answering these questions can be to look at how much the equipment costs, for how long it will run and what the maintenance cost is and weigh that against how many patients per day can be treated, how many life years can be gained and the quality of life during these years. In summary, the cost effectiveness should be viewed with regard to other treatments, for which group of patients, at what stage of the disease and from what perspective.

On the company side, *Gustaf Engstrand* presented Helseplan, a consultancy company that works in several areas; hospital development (such as planning, financing, design, equipping, maintaining and operating hospitals); consulting within strategic planning and organization; benchmarking; and IT solutions such as tele-radiology and the web-based information on diseases and care in Sweden). Since more than a year Helseplan has been involved in the Swedish-Zambian cancer care initiative, a new way of structuring collaboration after donor cooperation, a partnership between the 2 countries. Sweden has the know-how, technical solutions and expertise in e.g. cervical cancer, and there is an interest from both sides to collaborate. Priority areas are patient focus, equal access to

care, competence in screening, early detection and diagnosis, national guidelines, know-how in palliative care, telemedicine and e-health, multi-professional teams and research. The collaboration will start with a pilot study on tele-radiology, with distance x-ray readings, connecting CDH and the Stockholm south hospital SÖS thru Helseplan's platform seedoo.se. This same system could be used in the future between CDH and the coming satellite oncology clinics in Zambia.

We also listened to *Henry S. Tembo*, representing Medcard Apps, a Swedish company that has developed an electronic health record system, designed to follow the work flow of a medical clinic or hospital, from registration of patients, to exam, lab tests, prescription of drugs, and billing. It can reduce paperwork, increase efficiency, control stocks in the pharmacy and for consumables, manage insurance, and easily give statistics and produce reports. In addition it can easily be integrated with social security systems, national ID card etc.

Closing remarks, way forward

Maria Helling, CEO Swecare and Dr. Kennedy Lishimpi, Executive Director Cancer Diseases Hospital

The closing remarks were given by the CEO of Swecare, Maria Helling and Dr. Kennedy Lishimpi, CDH, representing the organizers of the forum. In summary the day consisted of many interesting presentations, with a lot of new information and learning opportunities. The organizers were happy to hear about the political commitment on both sides, which can now lay the ground for future collaboration and contribution to better treatment of patients in Sweden and in Zambia. After closing the forum, everyone was invited to tea and coffee and to continue networking and exchanging ideas and information, to round off the day.