Paper

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The Edinburgh Malawi Cancer Partnership: helping to establish multidisciplinary cancer care in Blantyre, Malawi

[1]E Brown, [2]D Gorman, [3]G Knowles, [4]F Taylor, [5]Y Jere, [6]J Bates, [7]L Masamba
[1]Consultant in Medical Oncology, [3]Nurse Consultant, [4]Senior Charge Nurse, Edinburgh Cancer Centre, NHS Lothian, Edinburgh, UK; [2]Consultant in Public Health, Department of Public Health, NHS Lothian, Edinburgh, UK; [5]Clinical Officer, [6]Consultant in Palliative Care, [7]Consultant in Oncology, Oncology and Palliative Care Unit, Queen Elizabeth Central Hospital, Blantyre, Malawi

ABSTRACT In response to the growing incidence of cancer in Malawi, a new oncology unit was established at the Queen Elizabeth Central Hospital, Blantyre. The unit opened in 2010, the first in the country, and is led by a single consultant oncologist. In 2012, a healthcare partnership was formed between the oncology and palliative care unit at Queen Elizabeth Central Hospital and the Edinburgh Cancer Centre, UK. The principal objective of the partnership is to help develop high quality multidisciplinary cancer care in Malawi.

Methods A needs assessment identified three priority areas for further improvement of cancer services: nurse-led treatment delivery; management of clinical data; and multidisciplinary working. The partnership received grant funding from the Scottish Government Malawi Development Programme in 2013 and a three year project plan was implemented. This has been conducted through a series of reciprocal training visits.

Results Key achievements have been completion of a programme of oncology nursing education attended by 32 oncology nurses and other healthcare professionals, which has resulted in increased experience in cancer practice and standardisation of chemotherapy delivery procedures; development of a clinical database that enables prospective collection of data of all new patients with cancer and which links to the Malawi Cancer Registry; development of weekly multidisciplinary meetings involving oncology, gynaecology and surgery that has enabled a cross-specialty approach to patient care.

Conclusion The Edinburgh Malawi Cancer Partnership is supporting nursing education, data use and cross-specialty collaboration that we are confident will improve cancer care in Malawi. Future work will focus on the further development of multidisciplinary breast cancer care and the development of a radiotherapy service for patients in Malawi.

***Correspondence to** E Brown*
Edinburgh Cancer Centre
Western General Hospital
Crewe Rd South
Edinburgh EH4 2LF
UK

***e-mail** ewan.brown@luht.scot.nhs.uk*

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BACKGROUND

Malawi is a low income country with a gross national income per capita of US$250 and approximately 50% of the population are estimated to live below the poverty line (less than US$1.25 per day).[1] Like many sub-Saharan African countries, communicable diseases including HIV, tuberculosis and malaria are the major causes of morbidity and mortality in Malawi,[2,3] although it is now becoming clear that non-communicable diseases are also major healthcare issues. A United Nations summit on non-communicable diseases in September 2011 recognised the urgent need for greater measures at global, regional and national levels to prevent and control non-communicable diseases, including cancer, cardiovascular disease, chronic respiratory disease and diabetes.[4]

The Malawi National Cancer Registry described approximately 18,000 new cases of cancer between 2007 and 2010.[5] The most common cancers were cervical, Kaposi's sarcoma, oesophageal and breast in females, and Kaposi's sarcoma, oesophageal, lymphoma and prostate cancer in males. This study reported an increasing trend in age adjusted incidence of cancer in Malawi for the above period compared to the 1999–2002 period. It was recognised that less than 20% of cases had a histological diagnosis. The number of cases of cancer in Malawi not captured through the registry was unknown but the reported figures are likely to represent a minority of total cases.

The Queen Elizabeth Central Hospital (QECH) is the largest hospital in Malawi with approximately 1,000 beds. It functions as a district general hospital for Blantyre (population around 1.2 million), a central hospital for southern Malawi (population around 6 million) and as a tertiary referral hospital for the country. It is also the teaching hospital for the University of Malawi College of

BOX 1 Principles of a healthcare partnership (adapted from the International Health Links Manual[7])

- Primary focus is capacity-building and staff development
- Respond to requests and work towards goals of the organisation in the developing country
- Support interdisciplinary involvement to draw on a range of expertise
- Should be aligned with national strategies and aim to strengthen already established health systems

Medicine and other health institutions. In partnership with the QECH management, Dr Leo Masamba and later the Cancer Association of Malawi helped establish a new cancer unit at the QECH in 2010, the first of its kind in Malawi. The core activities of the unit over the last five years have been to assess patients with suspected cancer during the diagnostic process, collaborate with the surgical team where surgery is required, offer supportive care for those with incurable cancer, treat patients with chemotherapy where indicated and teach medical and nursing staff basic principles of cancer care. At present there are only two dedicated oncologists in Malawi and no access to radiotherapy.

In 2012 a healthcare partnership was established between the Edinburgh Cancer Centre (NHS Lothian) and the QECH Cancer Unit in order to support the development of a modern, effective, high quality cancer centre at QECH (Box 1). This paper describes progress during its first three years.

METHODS

Baseline needs assessment

A needs assessment was undertaken during a visit to Blantyre in May 2012. This visit investigated the level of infrastructure that was in place in the areas of cancer surgery, radiology, pathology, chemotherapy, palliative care, education, and information technology. On completion of the needs assessment, agreement was reached on the key principles of a cancer partnership between the Edinburgh Cancer Centre and QECH. The three priority areas identified for further improvement of cancer services were: management of clinical data; nurse-led treatment delivery; and multidisciplinary working. It was agreed that progress in these areas would help support the development of a safer, sustainable cancer centre where nurse-led treatment was a priority and where decisions on patient management were made on a cross-specialty basis.

Project plan

A project plan was developed in January 2013 following a successful funding application to the Scottish Government's Malawi Development Programme. The main aim of the project was to develop 'an integrated cancer and palliative care unit at QECH, Blantyre promoting high quality, safe and effective treatment for patients with all stages of cancer'. The three main outputs of the project were:

1. Development and implementation of a clinical management system for patients attending the QECH Cancer Unit;
2. Development and implementation of protocols for nurse-led treatment of common cancers including Kaposi's sarcoma, lymphoma and breast cancer;
3. Implementation of monthly multidisciplinary team meetings where treatment decisions on all complex patients with cancer are made.

RESULTS

Development of a clinical management system

In order to establish more detailed information about cancer incidence in Malawi, a system for prospectively collecting clinical data was developed. It was anticipated that this would not only allow assessment of activity within the oncology unit and linkage with the National Cancer Registry, but would also lead to the development of a robust system for monitoring follow up and response to treatment which would be essential for ongoing service development. Before the partnership, there was no electronic clinical information system in place, with analysis of data requiring hand searching paper-based systems within the unit. In developing the programme a number of challenges needed to be addressed including issues around data confidentiality, links to the national health data collection system and security. This led to the development of a local server-based database system rather than an internet-based system. An information technology manager and data officer were recruited in 2013 and helped design a number of prototypes before agreement of the specification of the new system was reached and subsequently installed in April 2015.

The database is hosted on a standalone server and uses wireless technology and a secure intranet to allow access from several computers within the department. The data management team has been trained to use the system and prospective collection of data on all new patients was started in April 2015. In addition, retrospective data for the time period 2012–2014 have been collected on an Excel spreadsheet, which will allow reporting on the experience of over 1,500 new referrals to the cancer unit over three years.

BOX 2 Benefits of a healthcare partnership to UK NHS staff (adapted from the International Health Links Manual[7])

Personal
- Personal satisfaction
- Appreciation of NHS
- Learning about new cultures

Professional
- Learning about new pathologies
- Hones clinical skills without dependency on high-tech equipment
- Understanding of different cultures
- Improved teaching and management skills
- Development of resourcefulness

Organisational
- Link can enhance reputation
- Enhanced job satisfaction and moral of staff

Development of protocols for nurse-led treatment delivery

A nursing education programme has been designed and implemented which aims to help develop nurse-led chemotherapy delivery using standardised protocols for all common cancers. In September 2014 and September 2015 a programme of oncology nursing education attended by 32 oncology nurses and other healthcare professionals was completed at QECH. This training was undertaken in collaboration with an oncology nursing team from Beaumont Hospital, Dublin, and consisted of morning tutorials and afternoon practical teaching on the oncology unit. The content of the course included basic principles of cancer treatment, safe administration of chemotherapy as well as communication skills. This teaching led to the development of a draft guideline on safe chemotherapy delivery for use in cancer treatment centres in Malawi.

Four members of the Malawi oncology and palliative care team visited the UK in March 2014 in order to observe oncology and palliative care practice and to gain experience of nurse-led chemotherapy delivery and multidisciplinary working. Following this visit, joint oncology and palliative care ward rounds have been piloted at QECH with positive feedback from both sides. A meeting has also been held to review treatment approaches to Kaposi's sarcoma with the aim of improving consistency of care.

Implementation of monthly multidisciplinary team meetings

During September 2014 a breast cancer symposium was conducted at the College of Medicine, Blantyre, in order to bring together all specialties involved in the breast cancer treatment pathway. There was international collaboration, with the symposium being video-linked to

FIGURE 1 The Edinburgh Malawi Cancer Partnership team

an oncology group in Boston, USA. This group is part of the QECH-Global Oncology Partnership which aims to improve the care of cancer patients in Malawi through knowledge transfer, mentoring and education. The symposium led to an agreement to develop multidisciplinary team meetings for patients with breast cancer attending QECH.

From November 2014, weekly multidisciplinary team meetings have been established at QECH attended by representatives from oncology, surgery and gynaecology. On average, six patients per week have been included and records of discussion and outcomes have been collected for all cases. To date multidisciplinary team meetings have discussed patients with head and neck cancer, breast cancer, cervical cancer and Kaposi's sarcoma. Email discussion of complex cases between Malawi and the UK also occurs regularly.

During March 2015, Dr Leo Masamba visited the Edinburgh Cancer Centre to meet staff, attend multidisciplinary team meetings, experience nurse-led treatment delivery, review clinical data systems and review radiotherapy facilities. He also attended the Edinburgh Oncology Course. This allowed Dr Masamba to review a high quality UK practice and help consolidate plans to further develop multidisciplinary team meetings on his return to Malawi.

LINKS WITH THE CANCER ASSOCIATION OF MALAWI CANCER

The Cancer Association of Malawi is a partner in the programme, with the emphasis on patient education initiatives. The Edinburgh team attended the successful 'cancer below the belt' event in September 2014 focusing on cervical cancer and, in September 2015, 12 posters with health promotion messages were delivered. These are adaptions of AfrOx (Africa Oxford Cancer Foundation) posters with text translated into Chichewa

for the local population. The posters are displayed on the unit and are available for use in sessions run by nursing and other staff for patients and their guardians.

BENEFITS TO UK STAFF

As well as helping to develop cancer services in Malawi, the Partnership is also providing a number of clear benefits to the staff in the UK (Box 2). It has enabled personal, professional and leadership development opportunities; it has helped give staff a new perspective on their work in the UK and has allowed them to appreciate the value of the NHS, having worked in a resource limited environment. It has also enabled staff to acquire skills in managing disorders and presentations rarely seen in the native UK population and to build resilience and confidence in tackling new challenges.

NEXT STEPS

The National Action Plan for Prevention and Management of Non-Communicable Diseases in Malawi 2012–2016 has placed increasing emphasis on cancer education, prevention and treatment including the development of specialist cancer centres.[6] We have recently received further grant funding to support the ongoing development of this healthcare partnership with a focus on multidisciplinary cancer care using breast cancer as a model. This project will focus on challenges around late presentation and compliance and will seek to develop a specialist oncology nursing role in Malawi. Further work will also explore the feasibility of introducing clinical research projects to the oncology unit.

CONCLUSION

The Edinburgh Malawi Cancer Partnership is a formalised voluntary partnership between the Edinburgh Cancer Centre, NHS Lothian and the QECH oncology unit, which was established in 2012 in response to local needs. To date, significant progress has been made in all three areas of clinical priority; clinical data system development, development of nurse-led protocols and implementation of multidisciplinary team meetings. This has been achieved through a series of reciprocal visits and an oncology nursing education programme which has helped to provide increased knowledge and experience of nurse-led chemotherapy delivery and multidisciplinary working. The work has helped establish new protocols that promote a culture of encouraging safe and effective chemotherapy administration and management of side effects. In addition, a cross-specialty breast cancer symposium has led to the development of multidisciplinary team meetings for discussion of complex cancer cases in Blantyre. These meetings will continue to evolve in order to achieve a format that includes all relevant specialties but is also relevant for local practice. Further funding has now been obtained to help develop sustainable high quality multidisciplinary cancer care in Malawi. Future work will focus on further development of cross-specialty treatment protocols and capacity building across all aspects of cancer care in Malawi.

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