



Barriers and Facilitators to Establishing Radiotherapy Services in Low- and Middle-Income Countries: A Qualitative Study

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INTRODUCTION

Cancer is a major contributor to the global disease burden, particularly in low- and middle-income countries (LMICs) [1].

Radiotherapy is a critical component of cancer management.

In LMICs, almost two out of three cancer patients will require radiotherapy to cure cancer or improve quality of life [2]. But there are significant gaps in radiotherapy access across LMICs [3].

Assessing a country's readiness to establish and sustain a radiotherapy service involves appraisal against likely barriers and facilitators related to policy, healthcare organisation and community [4].

However, there has been a lack of empirical evidence to inform understanding of which factors might be important to consider.

AIMS

The aim of this study was to identify and describe barriers and facilitators to establishing and sustaining high-quality and accessible radiotherapy services in LMICs based on the experience of successful and unsuccessful attempts.

METHODS

A descriptive qualitative study design with purposeful and snowball sampling of radiotherapy experts was conducted.

To be eligible, participants needed to have experience of implementing, sustaining, improving and/or delivering radiotherapy services in LMICs.

Semi-structured interviews were carried out with an interview guide informed by the World Health Organisation Innovative Care for Chronic Conditions Framework [5] (See Figure 1).

Interviews were digitally recorded and transcribed verbatim. Transcripts were imported into NVivo version – 12 for management, organisation and coding. Analysis used both inductive and deductive approaches.

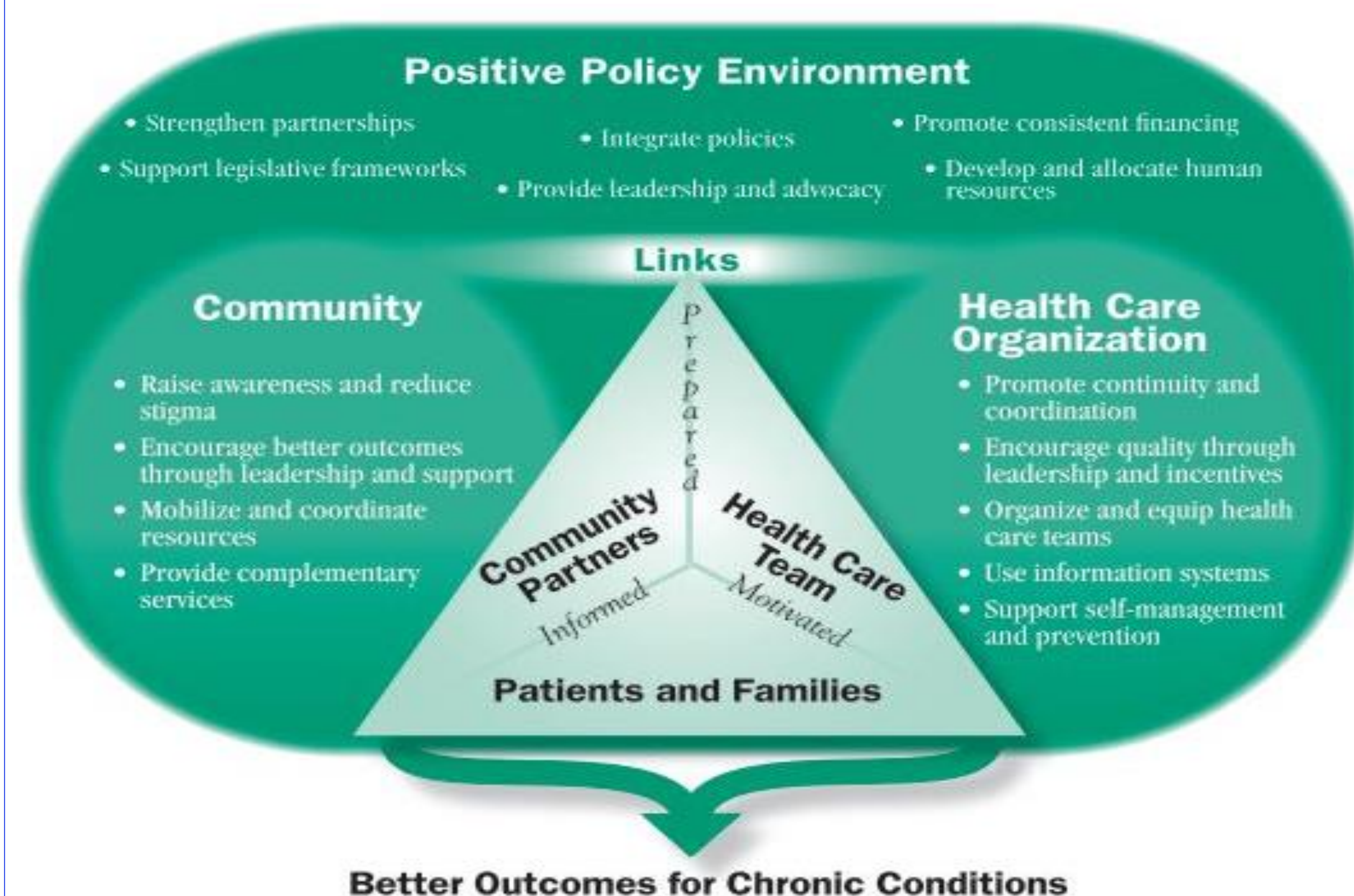


Figure 1 Diagram of ICCT framework

References

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FINDINGS

Seventeen participants were interviewed.

Ten were working permanently in nine LMICs and seven were from four high-income countries.

The majority were radiation/clinical oncologists (n=11) with a smaller number of medical physicists (n=3), radiation therapists (n=2) and one administrator.

Emerging Themes

1) Committing to a vision of improving cancer care

- Political will to support cancer care *...with the support of the Ministry of Health...six centres and teaching hospitals were selected to start cancer care, including radiotherapy (P10, CO, Local).*
- Availability of 'vision champions' *...someone that has some sort of clout...that will be listened to...University professor, or physician, or a senior medical physicist (P4, MP, International).*
- Identifying a funding model *I approached a bank for a loan...now we bought a property to build a centre that houses everything (P9, CO, Local).*
- Radiation safety and regulatory framework *...the country has to apply for membership in the IAEA... they also have to have some legislation in place, for accountability of the radioactive materials in that country (P3, RO, International).*

2) Making it happen and sustaining a safe service

- Building the facility and purchasing the right machinery *At the architectural drawings, we had a local architect who could collaborate and share the drawings with an international person to critique and give input (P9, CO, Local).*
- Building the radiotherapy workforce *...at minimum you need radiation oncologist, medical physicist and radiation therapist. It's a three-legged stool, if one of the legs don't work, the stool doesn't work (P2, MP, International).*
- Regular maintenance *...for example, one linear accelerator stops working for some or other reason; we make a call out, the engineer is supposed to be on site, according to the agreement, within one hour. (P17, MP, Local).*
- Good governance and management *The cancer hospital is run by 9-member management committee...These board members are responsible for the development of the hospital (P14, Administrator, Local).*

3) Leveraging off radiotherapy to strengthen integrated cancer care

- Catalysing comprehensive care and support service *It [radiotherapy] certainly can be a driver if you like to bring cancer services together (P15, RT, International).*
- Multidisciplinary approach to care *To get the best treatment for the patient, the best way to go is through the multidisciplinary team. No one alone can do all the jobs (P7, RO, Local).*
- Information and communication technologies *...every person in the hospital has access to this hospital information system (P8, RO, Local).*

CONCLUSIONS

In establishing a radiotherapy service, it is critical to plan for sustainability.

Some LMICs are making strides towards high-quality sustainable radiotherapy service by addressing challenges related to funding, workforce, maintenance, governance, patient outcomes and research.

Future research directed towards a tool for assessing countries' readiness to establish radiotherapy is essential to better support LMICs.

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