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Defining national research priorities for prostate cancer in Zambia: using the Delphi process for comprehensive cancer policy setting in sub-Saharan Africa

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ABSTRACT

Objectives Locally led research on cancer is needed in sub-Saharan Africa to set feasible research priorities that inform national policy. The aim of this project was to develop a research agenda for national cancer control planning, using a nationally driven approach, focused on barriers to diagnosis and high-quality treatment for prostate cancer in Zambia.

Methods and analysis This was a Delphi process. 29 stakeholders were scored barriers on feasibility, the proportion of patients affected, the impact on patient outcomes and if there was a potential to address health systems barriers meaningfully. There were three rounds (R) to the process: (R1 and R2) by electronic survey and (R3) in-person meeting. In R1 statements scoring above 15 from over 70% of participants were prioritised immediately for R3 discussion. Those scoring below 30% were dropped and those in between were re-surveyed in R2.

Results 22 and 17 of the 29 stakeholders responded to R1 and R2. 14 stakeholders attended R3. National priority research areas for prostate cancer in Zambia were identified as prostate cancer awareness; building affordable high-quality diagnostic capacity; affordability of specialist cancer treatments; supporting better access to medicines; delivery and coordination of services across the pathway and staff training.

Conclusion The suggested seven priority areas allow for the development of the prostate cancer control programme to be conducted in a holistic manner. The expectation is with this guidance international partners can contribute within the frameworks of the local agenda for sustainable development to be realised.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ There is a paucity of data on setting research priorities to inform cancer control planning in sub-Saharan Africa (SSA) and in particular Zambia.

WHAT THIS STUDY ADDS

⇒ This study established the research priorities in a Zambian context that could feed into national policy on establishment of a prostate cancer programme.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Problems are identical in low-resourced environments but the heterogenous nature of factors requires investigation in each country. This has not been done for cancer in Zambia before. It adds to the body of literature for SSA.

INTRODUCTION

Cancer forms a major part of the growing non-communicable disease (NCD) burden of sub-Saharan Africa (SSA) contributing to premature deaths. There is a growing political commitment in low-income and middle-income countries for capacity building projects in women's and children's cancers, for example, the WHO's commitment to eradication of cervical cancer, the Global Initiative for Childhood Cancer and The Global Breast Cancer Initiative.[1–3] However, cancers affecting men have not received much attention.[4]

Prostate cancer is emerging as a major health threat in SSA with patients typically presenting with late-stage incurable disease.[5] The age standardised incidence rate in 2020 was 69.2 per 100 000 men.[6] The mortality to incidence ratio continues to be very high with a mortality rate of 40.1 per 100 000 men in Zambia compared with that of less than 15 per 100 000 in most of the global north.[6] Key reasons for high mortality rates are due to delays in diagnosis and treatment as well as lack of access to evidence-based therapies or poor quality care delivery.

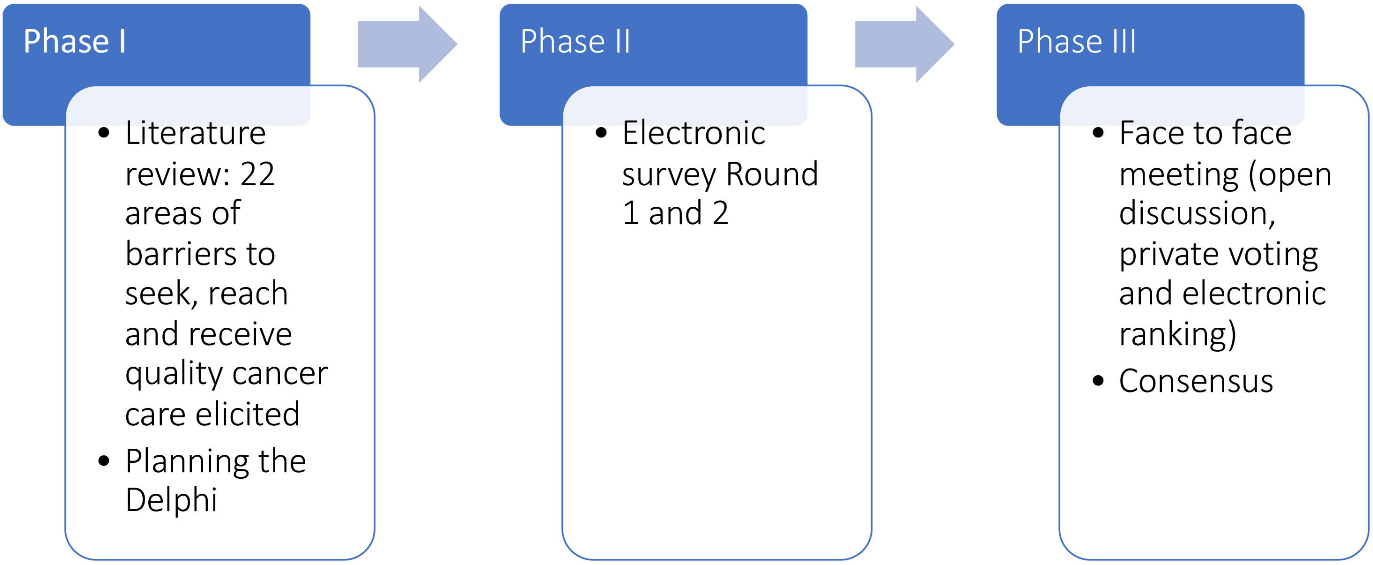

Figure 1 Research process.

The solutions to achieving timely diagnosis and ensuring access to equitable and affordable treatment for prostate cancer are complex. They require a strategic focus on prioritising a research agenda that seeks to identify the major barriers to achieving these aims alongside what health system interventions can be integrated into the health system of a country.

In line with the World Health Assembly Resolution 70.12 commitment to re-invigorate the investment into cancer prevention and control in the context of an integrated approach, Zambia in its first National Cancer Control Plan (2016–2021) included prostate cancer as a major focus.[1] We conducted a national-level Delphi process to set the research priorities for prostate cancer control planning in Zambia that would be integrated into the Zambian National Cancer Control Plan.

METHODS

We used a modified Delphi method adapted to the feasibility of conducting the research in the Zambian context.[7–9] The modified Delphi approach comprised two rounds of independent electronic anonymous voting on priorities and a final face-to-face consensus meeting. During the consensus meeting, issues identified during the earlier two rounds of the Delphi process were openly discussed but the final voting with respect to identifying research priorities remained anonymous. Figure 1 provides a schematic of our approach.

Literature review

To establish the themes for the Delphi process, we first undertook two systematic reviews of the quantitative (published) and qualitative literature (under review) to identify the barriers to seeking, reaching and receiving quality cancer care in SSA.[4 10] This was a separate piece of work and is not included in this report.

Planning the Delphi

The planning committee consisted of a national clinical and policy leader (who was appointed as chairperson), a clinical researcher with national and international work experience in oncology, a social scientist and the coordinator of the project (with clinical and health systems research experience in prostate cancer). With insights from this group, a cohort of diverse experts in prostate cancer, public health workers and a patient across all 10 provinces of Zambia were identified to participate in the Delphi process (table 1).

Questionnaire development

22 key themes were identified from the two systematic reviews as being significant potential barriers to seeking, reaching and receiving high-quality cancer care (box 1).[4] In order to determine the research themes that should be prioritised for further evaluation in the Zambian context and specifically for prostate cancer, each barrier was assigned a total score (out of 20). This was summed up from each of the four criteria which could be assigned a value 1–5 namely (a) feasibility (how easy it would be to research this thematic area empirically; (b) large scale (the proportion of prostate cancer sufferers); (c) high Impact (significance in cause of death or disability for prostate cancer patients); (d) modifiable (the barrier identified can be addressed to improve care for men with prostate cancer).[9]

Distribution of questionnaire

The electronic questionnaire was distributed using an online survey tool and the link distributed by emails.[11] Key to the Delphi process is the timely response to the questionnaires by participants. Veugelers *et al* articulated the lack of clarity in the conduct of Delphi research that makes it non-reproducible or produces results that are unreliable due to poor responses.[12] Traditionally the

Table 1 Participants details

Position	Province	Round 1	Round 2	Round 3
Urologist	Lusaka	Y	Y	Y
Head clinical care and clinical oncologist urology	Lusaka	Y	Y	Y
Senior medical superintendent and urologist	Southern	Y	Y	Y
Senior medical superintendent and general surgeon	Central	Y	Y	X
General surgeon	Western	N	X	X
Provincial medical director and general surgeon	Copperbelt	N	X	X
Senior medical superintendent and general surgeon	Copperbelt	Y	Y	X
General surgeon	Northern	N	X	X
Urologist	North Western	Y	Y	X
Non-communicable disease officer	Central	N	X	X
Medical doctor and non-communicable disease officer	North Western	N	X	X
Medical doctor and non-communicable disease officer	North Western	N	X	X
Non-communicable disease officer	Central	N	X	X
Environmental health officer	Eastern	Y	Y	Y
Urologist	Luapula	Y	X	X
Director cancer control and clinical oncologist	Ministry of Health	Y	Y	Y
CEO prostate cancer NGO	Lusaka	Y	Y	Y
Urologist	Copperbelt	Y	Y	Y
Hospital director and medical oncologist	Southern	Y	Y	X
Assistant director clinical care and diagnostics	Ministry of Health	Y	Y	X
Medical doctor	Northern	Y	Y	X
Medical doctor	Muchinga	Y	Y	X
Medical doctor	Eastern	Y	Y	X
Senior medical superintendent	Northern	Y	Y	X
Prostate cancer patient	Copperbelt	Y	Y	N
Senior medical superintendent	Luapula	Y	Y	Y
Senior medical superintendent	Western	Y	Y	X
General medical officer	Western	Y	Y	Y
General medical officer	Southern	Y	Y	Y

Y: responded/attended. N: invited but did not respond or attend. X: not invited.

surveys are electronically distributed in the hope that participants will respond. The day-to-day operations set up for the health sector administratively in Zambia is a paper based one and hence electronic communication can yield poor results. To mitigate for these issues recurrent emails and phone calls were made to those who had been contacted and had not completed the survey. The respondents were also allowed to receive the link by text message when they requested it.

Consensus definition

Once all the questionnaires were received, we compiled the rankings for each statement based on the scores from respondents. In round 1, any themes for which greater than 70% of participants gave a score of 15 or more were accepted directly for the final consensus meeting. Those themes for which fewer than 30% of respondents score gave it a score of 15 or more were omitted from further discussion in the project. The themes scoring between 30% and 70% were redistributed for ranking in round 2. In this subsequent round, the threshold for inclusion in the consensus meeting was limited to the top five scoring themes.

Consensus meeting (round 3 of Delphi survey)

The consensus meeting was an in-person meeting. We selected a diverse and balanced group comprised 10 individuals from the Delphi survey participants. This included at least one individual from each of the provinces and stakeholder groups to ensure representation.

A semi-structured agenda (online supplemental appendix 1) was provided to manage time constraints. All individual participants were allowed enough time to give their opinions for each topic discussed. Each proposed

Box 1 Themes of barriers to seeking, reaching and receiving quality cancer care in sub-Saharan Africa

Barrier

- ⇒ Lack of diagnostic services (X-ray, ultrasound, labs (eg, prostate specific antigen testing, biopsy pathology facilities)).
- ⇒ Lack of radiotherapy options (brachytherapy/external beam radiotherapy).
- ⇒ Difficulties with healthcare coordination between regions and hospitals as patients referred for specialist investigation and treatment.
- ⇒ Lack of availability of critical medicines.
- ⇒ Cost of treatments for example, surgery, radiotherapy, hormone therapy.
- ⇒ Lack of awareness of cancer as a disease and recognition of symptoms.
- ⇒ Lack of critical surgical supplies.
- ⇒ Cost of accessing healthcare (eg, cost of accommodation and transport needed to receive treatment from centralised services).
- ⇒ Cost of diagnostic investigations.
- ⇒ Lack of social capital to support cancer journey especially where patients must travel for care (relationships, support from family, friends, colleagues).
- ⇒ Personal and professional obligations (financial and social implications to the patient and their families of seeking care and undergoing treatment).
- ⇒ Misdiagnosis of cancer at lower system levels (eg, primary care, district hospital).
- ⇒ Inadequate training of staff regarding recognition of cancer as a diagnosis and in the management of cancer.
- ⇒ Accessibility of care (long distance/travel times to access specialist services).
- ⇒ Lack of workforce (low numbers of nurses, theatre staff, radiation therapists, urologists, oncologists, pathologists, pathology technicians, etc).
- ⇒ Poor healthcare literacy (when, how and where to seek services).
- ⇒ Preference for traditional, complementary and alternative medicines.
- ⇒ Staff motivation and burnout.
- ⇒ Stigma associated with a cancer diagnosis or severe illness/fears and beliefs around cancer.
- ⇒ Patient fitness and treatment toxicity.
- ⇒ Lack of trust in healthcare system and patients' citizens' rights (perceived quality; attitudes of healthcare workers; previous bad experience, eg, patients being turned away or refusal to refer; adequate consent).
- ⇒ Communication/language barriers between healthcare staff and patients.

research question was individually discussed by the expert panel, thereby providing an opportunity for members to reconsider their initial ratings in light of other members' views.

Following these discussions, the members were asked to anonymously assign a score from 1 to 9 for each research question using the Mentimeter app.[13] Once the scores were compiled, those meeting one of the following predetermined criteria were brought forward for final ranking: 100% of respondents scored the research question as either a 7, 8 or 9 or at least 10% of respondents scored the research question as a 9. The scores were then reviewed and discussed, with each participant asked to rank their top three themes to derive the final prioritisation ranking.

Patient and public involvement

The development of the research question and outcome measures was informed by patients' priorities, experience and preferences from documentation in previous studies that the authors included in a preceding systematic review.[4] Patients were not directly involved in the study design. A patient was a participant in the first two rounds of the Delphi process. The results will be disseminated to the patient participant by direct sharing and through other media designed communication in layman's language.

RESULTS

The Delphi process was conducted between January and April 2022. The stakeholders for this Delphi process were drawn from clinicians involved in the care of patients with prostate cancer (urologists, general surgeons and oncologists), administrators (NCD officers), policy makers, prostate cancer patients, prostate cancer civil society organisations and public health specialists.

There was an overlap in skill set with 24% (n=7) of the participants holding dual positions of clinical specialists and key decision-making managerial positions reporting directly to the Ministry of Health. 14% (n=4) of our participants held positions of NCD officers, a role that is key to programme implementation for cancer-related initiatives. We also had a prostate cancer patient and a prostate cancer civil society organisation representative participate as stakeholders. The rest of the cohort included five urologists, one environmental health officer, one assistant director based at Ministry of Health headquarters and seven hospital directors.

Round 1

The response rate for round 1 was 76% (22 out of 29). The following themes were ranked as the top five research priorities lack of diagnostic services, poor availability of radiotherapy treatment options, inadequate coordination of care between different regions and hospitals, as well as the lack of availability of critical medicines and high cost of treatments. These top five were automatically included for the face-to-face meeting (round 3).

Four themes were excluded as <30% of participants gave a score of ≥15. These themes included stigma associated with a cancer diagnosis or severe illness, fears and beliefs around cancer, patient fitness and treatment toxicity, lack of trust in healthcare system and patients' citizens' rights (perceived quality; attitudes of healthcare workers; previous bad experience).

The remaining themes scored between 30% and 70% and were included in the round 2 survey. These were lack of awareness of cancer as a disease and recognition of symptoms; inadequate training of staff regarding recognition of cancer as a diagnosis and in the management

Box 2 Round 3 themes

Barrier

- ⇒ Cost of diagnostic investigations.
- ⇒ Lack of awareness of cancer as a disease and recognition of symptoms.
- ⇒ Lack of diagnostic services (X-ray, ultrasound, labs (eg, prostate specific antigen testing, biopsy pathology facilities)).
- ⇒ Difficulties with healthcare coordination between regions and hospitals as patients referred for specialist investigation and treatment.
- ⇒ Cost of treatments, for example, surgery, radiotherapy, hormone therapy.
- ⇒ Lack of availability of critical medicines.
- ⇒ Inadequate training of staff regarding recognition of cancer as a diagnosis and in the management of cancer.
- ⇒ Lack of workforce (low numbers of nurses, theatre staff, radiation therapists, urologists, oncologists, pathologists, pathology technicians, etc).
- ⇒ Lack of radiotherapy options (brachytherapy/external beam radiotherapy).
- ⇒ Missed diagnoses of prostate cancer at lower service levels.

of cancer; misdiagnosis of cancer at lower system levels (eg, primary care, district hospital); lack of workforce (basic numbers low); cost of diagnostic investigations; lack of critical surgical supplies; cost of accessing healthcare (eg, cost of accommodation and transport needed; poor healthcare literacy (when, how and where to seek services); accessibility of care (long distance/travel times to access specialist services); staff motivation and burnout; lack of social capital to support cancer journey especially where patients must travel for care (relationships, support from family, friends, colleagues); personal and professional obligations (financial and social implications to the patient and their families of seeking care and undergoing treatment); preference for traditional, complementary and alternative medicines.

Round 2

13 themes were included in the survey for round 2. The response rate was 81% (17 out of 21). Applying the same inclusion criteria as in round 1, five further statements were included for the face-to-face meeting (online supplemental appendix 2).

Round 3

15 stakeholders were invited to the consensus meeting, which formed the final round of the process. Only one did not attend. A critical mass of 10 questions was considered and scored (box 2). Following further discussion each participant was asked to rank their top three themes. The themes that emerged as the top three were awareness of prostate cancer in the community; the cost of diagnostic investigations; availability of diagnostic services.

When considering the topic of prostate cancer awareness, the participants highlighted that the feasibility of research was high given that the size of the target group (men mostly above 40 years) is small in the context of the Zambian population and easily targetable. Its impact could be high as it would help to illuminate the gaps in knowledge that exist at present and making cancer awareness programmes more effective.

One participant said,

> Perhaps the target who need to be aware is not just the people who will be affected. Take for instance a wife, a sister a daughter heard about prostate cancer and maybe there is a family member struggling in all those areas they will advise them to go for treatment. So, as we look at awareness and accessibility of a service, we may not want to specifically look at only the people who will be affected but the community at large.

The participants had consensus on the significance of diagnostic costs and availability in the pathway. One participant noted 'Absolutely its researchable. We are talking about the basic care package if we are going to define where a diagnosis should be made its very easy. We have all our centers and the district is the heart and soul so it's extremely easy to research and intervene'.

The structured nature of the healthcare system was highlighted to contribute to the feasibility of conducting research and amenability of applying the results of the study. Given the fundamental importance of diagnosing men with clinically significant prostate cancers it was concluded that it would have a large-scale impact on the system.

Barriers identified that were considered to be of high priority to investigate included the costs and affordability of specialist cancer treatments. the availability of medicines for prostate cancer; the inadequacy of coordination of the prostate cancer pathway and the lack of training of staff in the management of prostate cancer.

Inadequate coordination of care pathways is influenced not just by the availability of resources but also driven by global agendas which continue to focus on communicable diseases and maternal and child health. A participant noted,

> If I have a prostate cancer patient, cervical cancer patient, a child with anemia and a pregnant woman with high blood pressure and there is one ambulance, the child and mother will be taken. Even if this prostate cancer has a broken leg, they will be given a referral letter and asked to go to the next level. And this is what is on the ground. We have prioritized women and children first so this if we studied it, this is what we will find. You will find problem of this nature. The health referral is there but in terms of prioritization there is a difference.

An insufficient health workforce (medical and allied) at all levels to manage the cancer pathway, availability of radiotherapy treatment and missed diagnoses of prostate cancer at lower service levels ranked lowest at the final consensus meeting and on discussion were not high-priority research areas.

DISCUSSION

Sustainable outputs of aid to sub-Saharan health systems have been elusive for several decades.[14] Policies and implementation strategies against classical diseases (mostly infectious) continue to ravage populations in this region in spite of the millions of foreign aid invested.[14] Although this can partly be attributed to gaps in good governance and leadership, the global conversation is shifting to acknowledge that in part this failure is due to the transplanting of homogenous high-income solutions into fragile, fragmented and under-resourced health systems limited in human resource capacity and infrastructure compounded by their unique cultural and social interactions.[15 16]

In developed countries, solutions are generated from the organic process of identification of the problem, information gathering or research, synthesis of possible solutions, robust testing of the efficacy, implementation and eventual review with necessary adjustments responsive to ensure effectiveness and progression of society. This all occurs with the backdrop of cultural appropriateness.In emerging economies where the health sector is poorly funded locally, donor funding with its solutions and programmes provide a significant amount of support but have limited terms leading to developmental stagnation and even regression.[14]

The purpose of this Delphi process was to prioritise key areas for research in prostate cancer in the Zambian context by establishing the major barriers to seeking cancer care, reaching cancer care and receiving high-quality cancer care. Several barriers are identified in the literature but it is important to evaluate those barriers in the Zambian context which are first feasible to research, second affect a significant number of prostate cancer patients, third are a major cause of premature mortality and morbidity for prostate cancer patients and finally if they are amenable to intervention and improvement.

Following a literature review, we carried out a Delphi process with national cancer stakeholders.[4] Our study invited cancer experts, clinicians, patient stakeholder and policy experts in and outside cancer management as an expert panel to participate in three rounds of evaluating the top research priorities for prostate cancer care in Zambia with a view to including in the National Cancer Control Plan and developing further research programmes that are needs led. We outline the five priority areas for further research within these broad domains as part of a comprehensive national prostate cancer research programme.

Community awareness of prostate cancer

Increasing the knowledge and awareness of prostate cancer among the population ranked highly as a priority during the expert consensus process. The issues surrounding masculinity and cultural specificities make dissemination of prostate cancer information difficult and include the attitudes that knowing about the disease will not necessarily prevent it or death from it.[17] The relative heterogenous nature of beliefs, ethnic practices and affiliations makes implementation more complex than in largely homogenous societies. The recommendation would be to investigate and validate innovative methods of communication that circumvent education level and hierarchies of paternalistic environments. There are low levels of prostate cancer awareness in Zambia.[18] The majority of information seems to be received through mainstream health workers such as nurses and doctors, which poses an access problem.[18] The encouraging finding of a contemporary hospital-based study in Zambia suggests that 98.5% of men after receiving the information have a positive attitude towards prostate cancer screening with the intention to undergo screening if available.[18] This is quite contrary to historic reports from other parts of Africa where perception of fatalistic beliefs and fear seems to be prevalent.[19]

Cost and availability of diagnostic services

The prostate cancer diagnostic pathway includes clinical consultation (digital rectal examination), prostate specific antigen (PSA) blood tests, prostate biopsies and the equipment, consumables and workforce needed to deliver it (eg, ultrasound machines with rectal probes or MRI template guided) and histological confirmation by a pathologist. This process comes at great expense for the health system and patients. Cost and availability of diagnostic services were ranked highly (first and third, respectively) as research priorities by the expert panel in this study. Prostate cancer diagnosis can be challenging because most prostate cancer cases present asymptomatically or mimic other benign processes. To add to the complexity, the usefulness of PSA screening remains a topic of great debate leaving clinicians in developing health systems challenged on what to implement as prudent public health measures.[20] Contemporary reports of the USA Surveillance, Epidemiology and End Result data on prostate cancer reports that in the absence of PSA based screening there is an increase in diagnosis of de novo metastatic prostate cancer which portends a poorer outcome.[21] As such this theme is undoubtedly a central starting point for research. In its first National Cancer Control Plan (2016–2021), Zambia adopted PSA testing as a strategy. The total direct cost of most diagnostic strategies in SSA are pegged at approximately US\$100.[5] According to a recent World Bank statement over 60% of the population live on less than US\$2 a day hand to mouth, making such an out of pocket cost a prodigious ask of patients.[22]

Cost and availability of specialist treatment

The cost of specialist treatment should consider direct and indirect costs. It must also consider the cost to the individual as well as the health system. In SSA it is estimated that the average direct cost of prostate radiotherapy is US\$2276, prostatectomy US\$1428, orchidectomy \$512 and chemotherapy US\$1168.[5] In Zambia, the direct cost of cancer treatment is subsidised by the government.

However, it cannot be ignored that the health system receives a low national budget allocation. Government health expenditure in relation to GDP is approximately 1.93%.[23] This could contribute to failure of honouring service contracts for maintaining imaging and radiotherapy equipment, timely replacement of machines and the chronic shortage of anticancer drugs in government facilities.[24]

The indirect social and economic costs of prostate cancer treatment fall back on the patient. With centralised tertiary services most patients must travel vast geographic distances to access care. With no organised system for lodging outside a hospital system, patients either must advocate for admission in wards or forfeit treatment all together. In some cases, even when patients have resources to fund the treatment, specialist services are not available. At the time of writing this article, Zambia had only one partially functioning radiotherapy equipment, no brachytherapy specialist and limited prostatectomy services.

Coordination of the prostate cancer pathway

The success of implementation of any health programme hinges on understanding and investing in each tier of the healthcare delivery system to provide harmonious growth. Concentrating an intervention on one tier creates silos of care and gaps in service delivery. Currently, the system has not set up linkages in prostate cancer care. If this system is used it may work well.

The healthcare system in Zambia is organised into 10 provincial and 105 district health offices and statutory bodies.[25] The Ministry of Health represents national level leadership and is responsible for overall coordination, management, policy formulation, strategic planning and resource mobilisation. The provincial health offices are the link between the national and district level and is charged with backstopping provincial and district health services. The provincial level is also tasked with the provision of second-level referral services (through general hospitals).

The district is responsible for implementation of health promotion, preventive, curative and rehabilitative services. Administratively, the district health office is responsible for coordinating service delivery at that level. Each district has a district hospital, which provides first-level referral services from primary healthcare to secondary.

Below the district there are health centres, which provide both static (accept clinic visits) and outreach activities in the community. These are staffed by a clinical officer, midwife, nurse and environmental officer. The main activities at health centre level are predominantly health promotion and disease prevention.[25] Adequate funding between these levels of care is required to maintain linkages.

Inadequate staff training in prostate cancer

A significant barrier in the pathway of patients to receiving appropriate referrals to tertiary centres include the healthcare workforce who are not equipped to appraise early signs and symptoms of prostate cancer, particularly in the advanced setting. Ability to conduct PSA testing, physical examination (digital rectal examination and urine flow) in men presenting with urinary tract symptoms and/or in bone pain are ways that medical staff can be trained to identify prostate cancer. In the systematic review we undertook one of the key issues raised was incorrect advice given to patients and false reassurance across various levels of the healthcare system (seeking, reaching and receiving quality care) reflecting knowledge gaps or inadequate training to reach correct diagnosis in the healthcare professionals.[26–35] For example, a report from Zimbabwe elicited from key informers that,

> health workers still lacked adequate knowledge about cervical cancer to educate the communities and also to know what to do when a patient presents with symptoms. Some of the symptoms may not be so obvious and health workers especially in the primary care health facilities may not suspect cervical cancer or refer someone for screening.[36]

This sentiment was echoed in the Zambian setting for prostate cancer during the Delphi final consensus meeting. Research on how to improve training in these issues and identify specific barriers would be very helpful.

CONCLUSION

We present the result of an initiative that sought to identify prostate cancer research priorities in the Zambian context. These will be included as part of the National Cancer Control Plan. Key research domains included building community prostate cancer awareness; supporting affordable high-quality diagnostic capacity; and ensuring affordability of specialist cancer treatments in the context of universal health coverage. The clear and concise evidence-based mapping out of these needs and suggested solutions allow for the prostate cancer control programme to be conducted in a holistic manner. The expectation is with this guidance when international partners contribute, the implementation of the local agenda if in the forefront and sustainable development may be seen. In the face of the considerable limitations, a focus on affordable diagnosis and treatment of advanced prostate cancer and palliative care would benefit a large proportion of prostate cancer patients.

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