

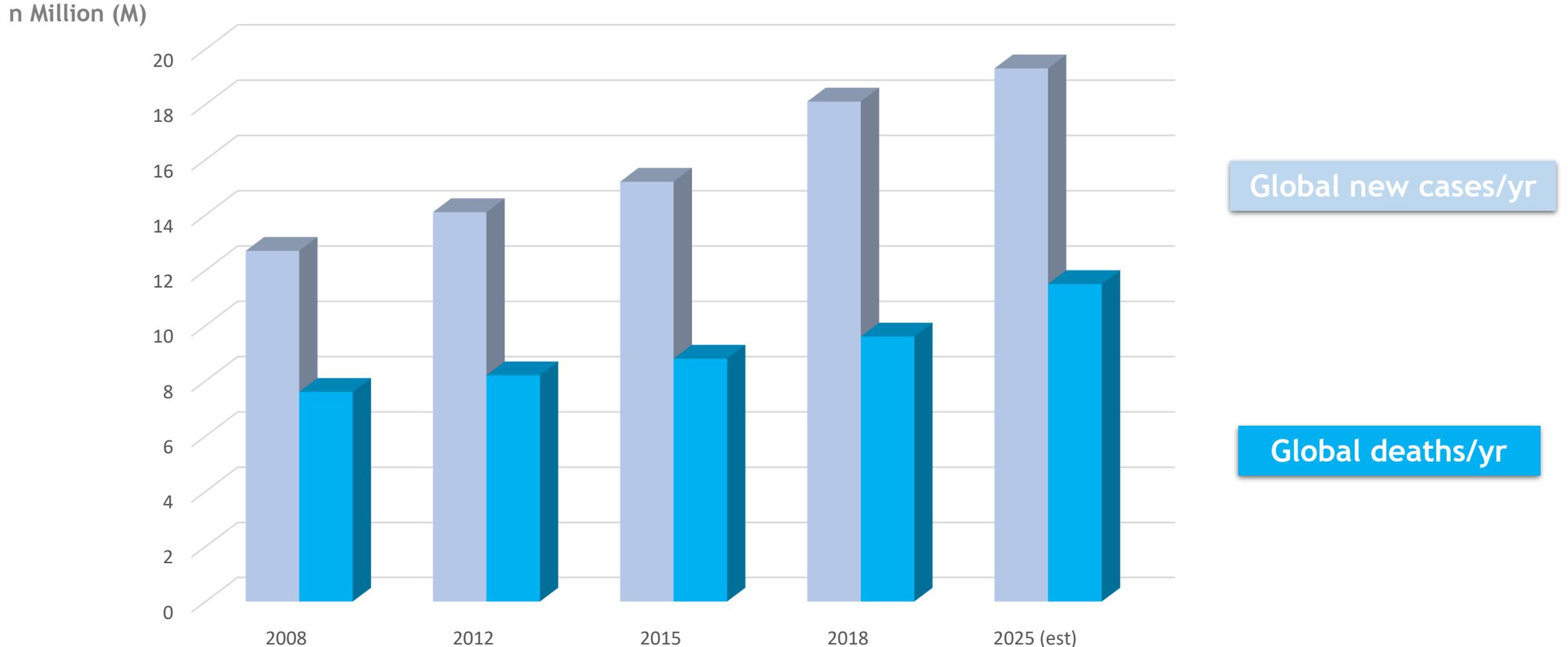


Barriers and Approaches to Cancer Immunotherapy in LMICs

Phangisile Mtshali (BMS Foundation)

Ute Dugan MD, PhD (Parker Institute for Cancer Immunotherapy)

Low / Middle Income Countries (LMICs) account for >60% of global cancer deaths



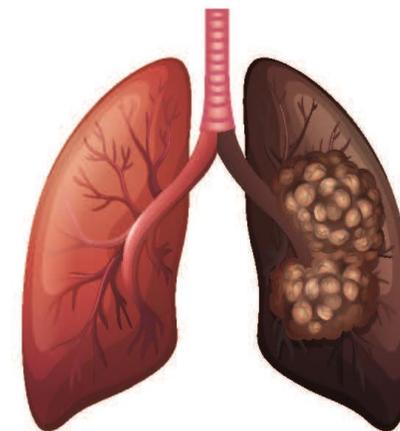
Ref. Estimating the global cancer incidence and mortality in 2018: GLOBOCAN sources and methods. [Int J Cancer](#). 2019 Apr 15;144(8):1941-1953.

Bristol Myers Squibb Foundation Global Cancer Disparities - Africa

A Case Study: Lung Cancer program a catalyst to improve cancer care and capabilities in Sub Saharan Africa

Phangisile Mtshali
Director, BMS Foundation

 Bristol Myers Squibb™



MLCCP™

MULTINATIONAL LUNG CANCER CONTROL PROGRAM

Improving access to lung cancer detection, diagnostics & quality care in Swaziland, Tanzania, Kenya and South Africa

Highly Confidential

Bristol Myers Squibb Foundation Global Cancer Disparities Africa

A health systems strengthening approach

- **Leverage legacy and partnerships**
 - 2 decades of Secure The Future & Celgene's MM legacy
- **Pan-African collaboration** to improve awareness, knowledge, capacity, and access to cancer services
- Adding to the body of knowledge, especially **lung cancer** in Africa



To help address

- **Limited data** from Africa
- **High death rates** due to late presentation and misdiagnosis
- Development of **national policies** and **guidelines**
- Lack of cancer care **capacity** and **poor infrastructure**

Our mandate



Lung cancer



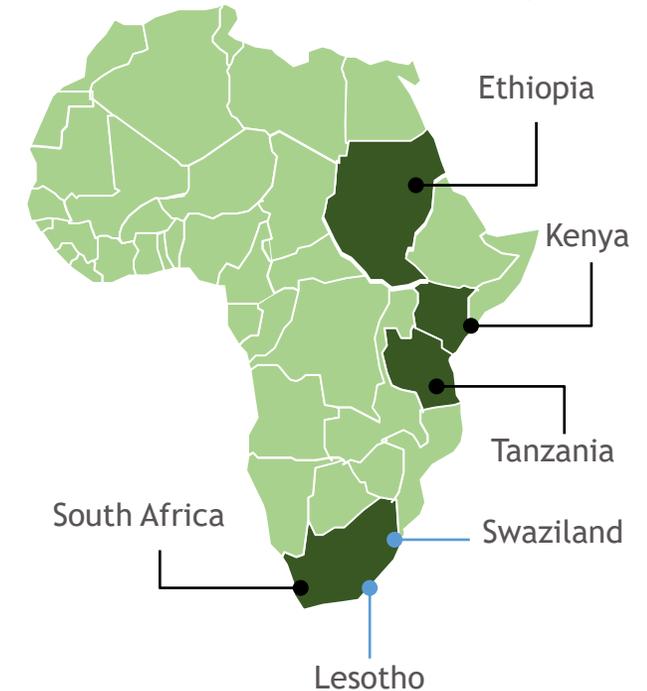
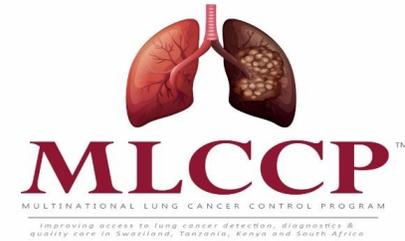
Cervical cancer



Multiple myeloma



Childhood cancers & blood disorders



Bristol-Myers Squibb Foundation Lung Cancer Programme Framework



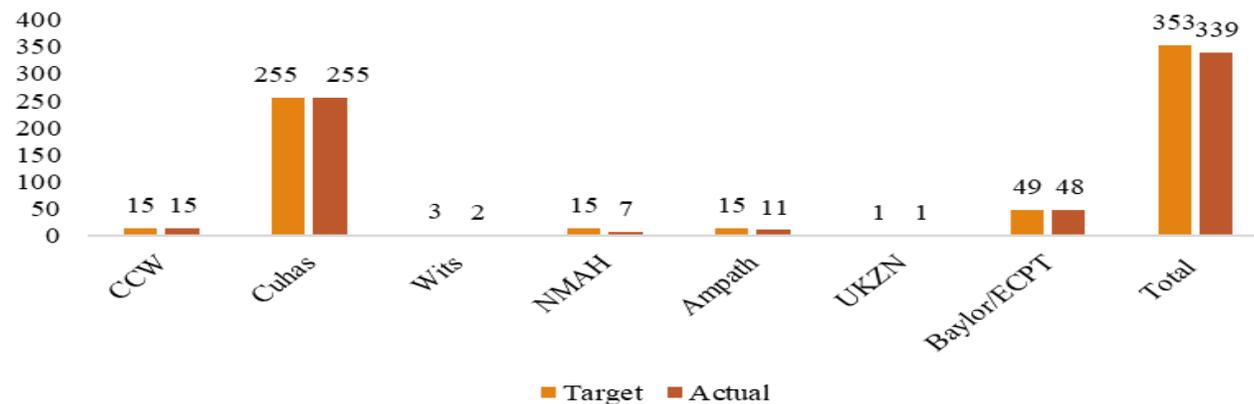
EXPECTED OUTCOMES

- ✓ Improved understanding of lung cancer burden
- ✓ Health System Strengthening
- ✓ Improved practice for early diagnosis
- ✓ Improved diagnostic yield
- ✓ Improved access to quality medicine and patient supportive care throughout the treatment continuum
- ✓ Improved palliative care and survivorship support at community level
- ✓ Improved health outcomes and quality of life for patients
- ✓ Informing policy

Health Systems Barriers and Implemented solutions

Barriers	Implemented Solutions - opportunities
Limited data to inform policy and advocate for services/new treatments	<ul style="list-style-type: none"> 34 cancer registry offices strengthened Databases created on RedCap Paper records migrated to electronic formats
Late Presentation	<ul style="list-style-type: none"> Case findings in TB and Chest Clinics Community education and outreach
Gaps in diagnostics	<ul style="list-style-type: none"> Strengthening of Pulmonology Units with EBUS and other relevant tools Training, training, training WHO Global TB Unit working on Guidance for National TB programmes
Room for improvement in Basic cancer care services	<ul style="list-style-type: none"> 13 health facilities received materials, equipment and supplies for lung cancer care and support services; 12 health facilities renovated for lung cancer care and support, Two lung bio banks initiated
Lack of National Cancer Control Policies or their Funding	<ul style="list-style-type: none"> 2 countries launched in country cancer services Guidelines developed acknowledges new treatment modalities and calls readiness NHI included some lung cancer services in Kenya and Tanzania

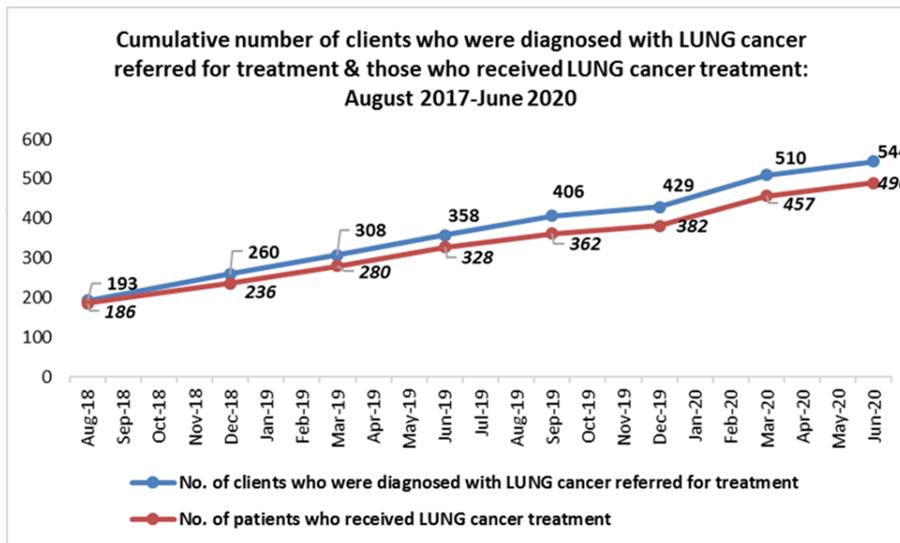
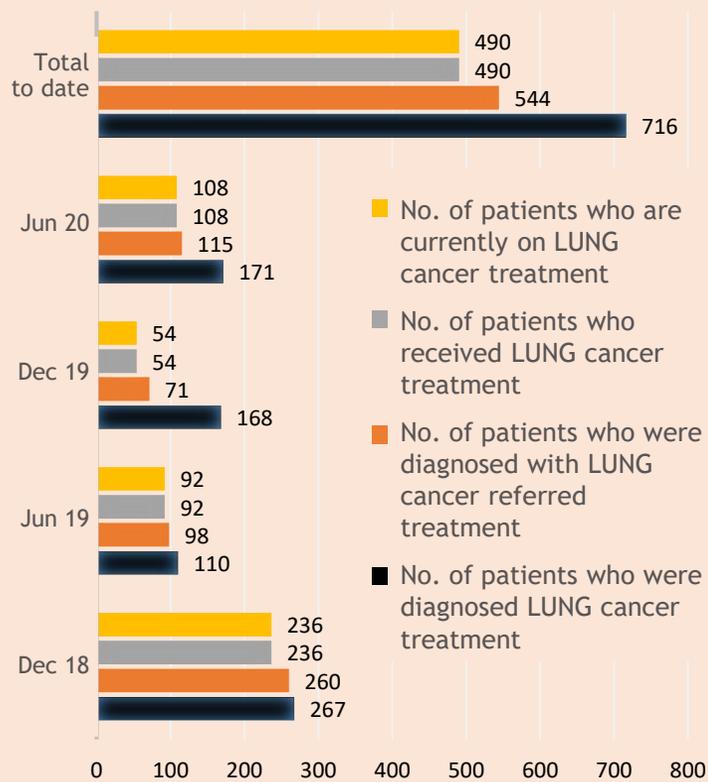
No. of health facilities with improved capacity to provide lung cancer care and support services



MLCCP Outputs June 2020

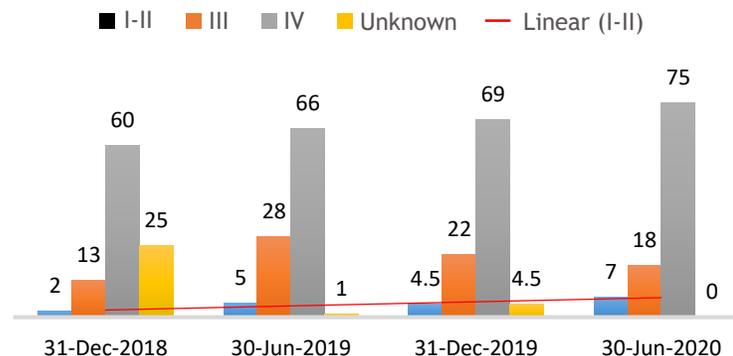


Patients on treatment



• **90% of patients referred for treatment received treatment**

% Staging



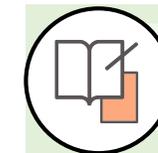
HCP/W capacity building

3221 HCPs trained on lung screening, diagnosis, treatment, and palliation

8 Pulmonology Fellows at The Lung Laboratory (Wits)

3 PhD students

8 Masters graduates at University of KwaZulu-Natal



Publications

4 Articles **published** & **6 submitted** for review

11 Manuscripts in development, including **7** joint manuscripts

Lessons learned - Enablers

1. A champion within the government who can act, as the programme's voice at a higher level is crucial
2. Advocacy for cancer among senior health systems administrators
3. Capacity building efforts should include baselines and comprehensive capacity needs assessments to inform capacity strengthening approaches
4. Systematic follow up of all capacity building trainees to track utilization of skills trained
5. Conducting a policy/strategic environment analysis is critical for successful capacity building so that there are investments towards advocacy for inclusion of cancer care in curricula
6. Capacity building interventions should be aided by a supportive health ecosystem because some trained cadres could not use their skills due to lack of infrastructure



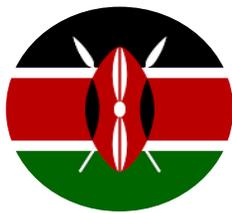
Immunotherapy in LMICs

Immunotherapy has the potential to revolutionize cancer treatment, it

- offers possibility for long-term cancer remission for certain cancer types
- more tailored to address complex cancer ‘systems’ than conventional cancer treatments
- safety management and patient/clinician vigilance is imperative

Survey: Immunotherapy readiness (Oct 2020)

- Collection of baseline capabilities and resources at eleven MLCCP collaborating hospitals and health centers in SSA (Kenya, Ethiopia, Tanzania, South Africa, Eswatini, Lesotho)



N=1



N=1



N=1



N=6



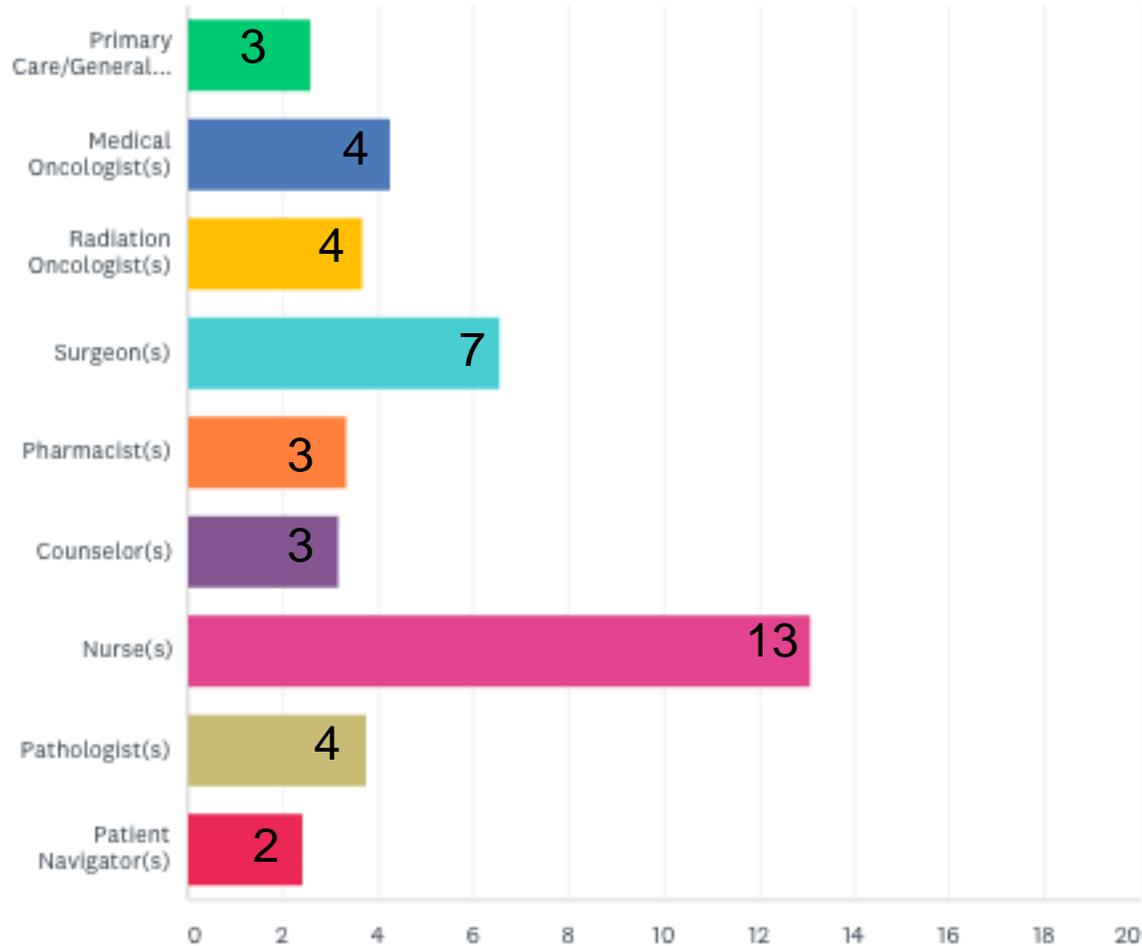
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N=1

Survey Results

Dedicated Oncology Staff*



*Results based on 12 respondents from 11 centers in 6 countries

Top 5 Cancers Identified



Breast Cancer



Cervical Cancer



Lung Cancer



Prostate Cancer



Kaposi Sarcoma

Oncology Disease Management Guidelines

1. National Comprehensive Cancer Network (NCCN)



National
Comprehensive
Cancer
Network®

*7 responses

2. European Society for Medical Oncology (ESMO)



*5 responses

Immunotherapy Readiness Survey Summary

Survey topics*	Yes (%)	No (%)
Designated Cancer Care facility	77	23
Cancer Care Referral System in place	66	34
Electronic Medical Records	44	56
Data Entry by HCP	55	45
Clinical Trial Database System (REDCap)	66	34
Telemedicine HCP Consulting	55	45
Telemedicine Patient Visits	11	89
Immunohistochemistry (IHC)	77	23
Molecular testing	33	67
Cancer Treatment Availability		
- Chemotherapy	100	-
- Surgery	88	12
- Radiotherapy	77	23
- Targeted Therapy (rituximab, trastuzumab, brentuximab)	66	34
- Immunotherapy	33	67
*12 respondents from 11 centers in 6 countries		

Impactful Cancer Care Capacity Building Requires Collaboration

Regional Assessment
Gap Analysis

Data Capture, Analysis,
Publication

Demonstration Projects

ICM Initiative
(PICI, CHAI, AZ, BMS, Roche)
Immunotherapy



Research
Methodologies

Oncology Training
Curricula

Implementation Research

CIRGO
(UPENN, MDACC, FredHutch,
UCSF, ICI, NCI, PICI, ICRP, ASCO,
NCCN, ASCP, BMS)
Cancer Care Capacity

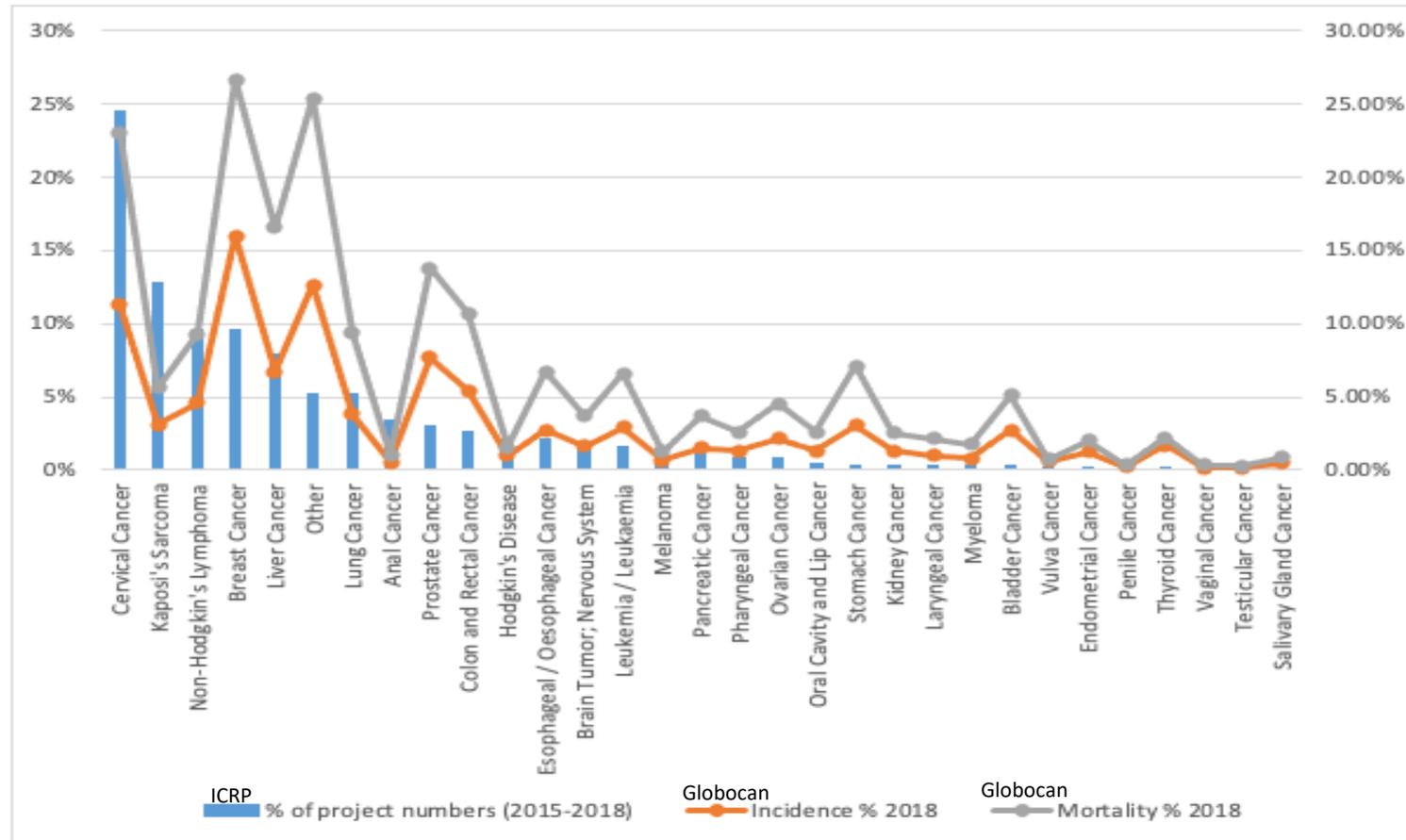
Multi-Sector Coalition for Implementation Research in Global Oncology (CIRGO)



Example: Leveraging multi-sector collaboration

CIRGO SSA Research Analysis

Figure D. Percent of Project Numbers by Cancer Site (2015-2018) with Overlay of African Cancer Incidence and Mortality (Globocan 2018)



Ref. CIRGO Advisory Committee mtg November 30th, 2020

Conclusions

- Multi-sector partnerships are key to build sustainable cancer care systems in LMICs as foundation for the introduction of specialized cancer medicines such as immunotherapy (ICM, CIRGO)
- Overcoming barriers for the introduction of new and improved cancer medicines into LMICs will need to take into account the following approaches:

Collaboration of Cancer Centers	Impact
in LMICs and HICs	building oncology expertise, curricula (long term commitment)
within a geographic region (SSA)	sharing the learnings
with the private sector	new technologies, medicines, “know how”, funding
with NGOs	strengthening healthcare infrastructures
and with large public organizations (WHO, NCI, UICC, ASCO, ASCP, AORTIC, ESMO)	public visibility, policy development

If you want to go fast, go alone. If you want to go far, go together.

African proverb



Participants to the Workshop at the 12th AORTIC meeting in Maputo, Mozambique, November 6-9, 2019