ICCP ECHO: The Research Agenda

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Role of NCI as a funder of research to inform global cancer control priorities

Research themes

- Accelerate technology development for global cancer control.
- Accelerate global cancer implementation science.
- Understand and address global cancer health disparities.
- Increase support for cancer clinical trials in LMICs.
- Increase understanding of cancer etiology and biology through global collaboration.

US NCI mission

Lead, conduct, and support cancer research across the nation to advance scientific knowledge and help all people live longer, healthier lives.

Center for Global Health mission

Support the NCI mission by advancing global cancer research, and by coordinating NCI engagement in global cancer control.

Center for Global Health vision

Reduced worldwide cancer suffering through global scientific discovery and dissemination.

CGH core values

Impact, equity, collaboration

Center for Global Health Goals

Research

Support research that (a) addresses key scientific issues in global cancer control (b) leverages unique scientific opportunities afforded by global collaboration.

Research training

Support cancer research training that enables equitable, impactful global scientific collaboration.

Dissemination

Promote the integration of current scientific knowledge into global cancer control policies and practice.

Partnerships

Represent the NCI and promote its engagement with key partners in global cancer research and control.

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CENTER FOR GLOBAL HEALTH
STRATEGIC PLAN
2021-2025

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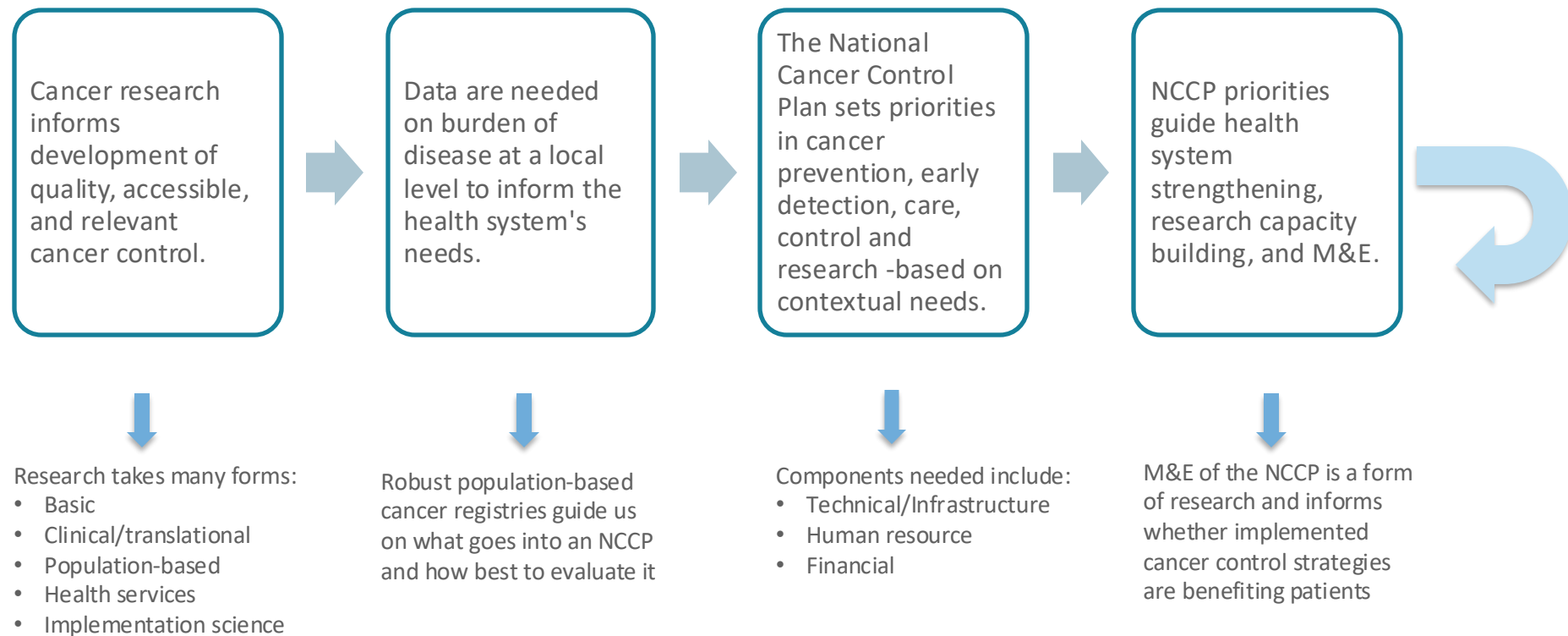Increase understanding of cancer etiology and biology through global collaboration.

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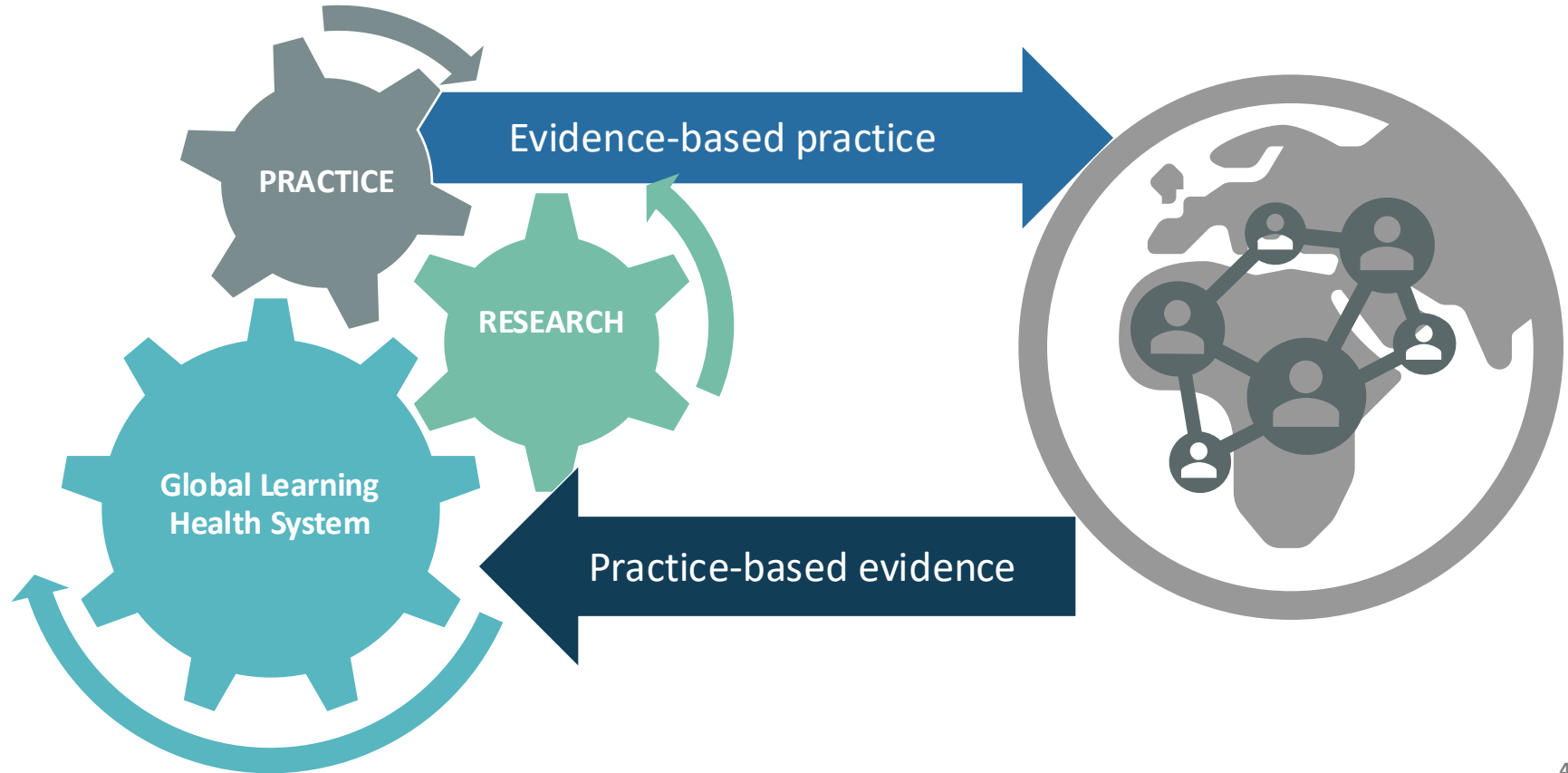
Why research is an important component of cancer control: Cancer research should benefit people everywhere

Cancer research informs development of quality, accessible, and relevant cancer control.

→

Data are needed on burden of disease at a local level to inform the health system's needs.

→

The National Cancer Control Plan sets priorities in cancer prevention, early detection, care, control and research -based on contextual needs.

→

NCCP priorities guide health system strengthening, research capacity building, and M&E.

↓

Research takes many forms:
- Basic
- Clinical/translational
- Population-based
- Health services
- Implementation science

↓

Robust population-based cancer registries guide us on what goes into an NCCP and how best to evaluate it

↓

Components needed include:
- Technical/Infrastructure
- Human resource
- Financial

↓

M&E of the NCCP is a form of research and informs whether implemented cancer control strategies are benefiting patients

- From the 2018 Global Review of NCCPs: Cancer research was mentioned in 86 (56%) of 153 countries, but only nine (6%) had specific national strategies and priorities

Romero Y, Trapani D, Johnson S, Tittenbrun Z, Given L, Hohman K, Stevens L, Torode JS, Boniol M, Ilbawi AM. National cancer control plans: a global analysis.

Lancet Oncol. 2018 Oct;19(10):e546-e555. doi: 10.1016/S1470-2045(18)30681-8. Epub 2018 Sep 26. PMID: 30268693.

12 LMIC Cancer Control Plans
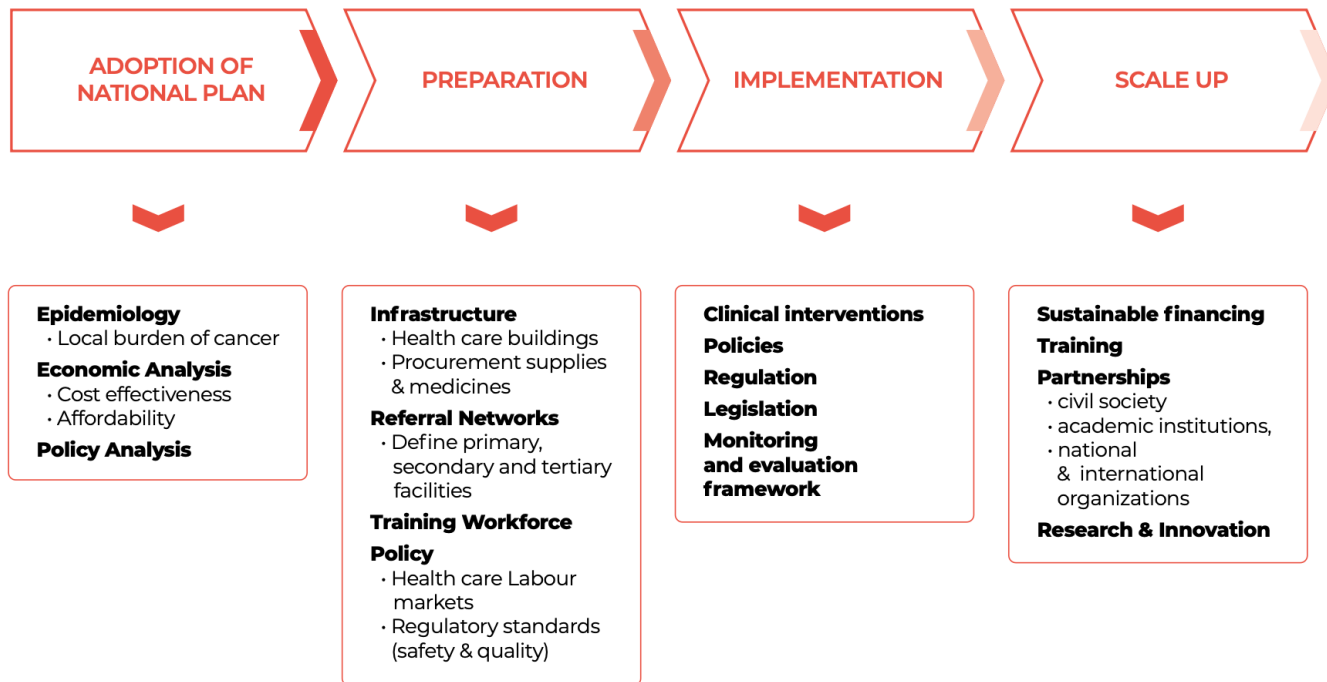
Research priorities
N= 207

Category

Establishing Research Agendas (67)

Category

Building Research Capacity (140)

Types of Research

Basic/ Biological (4)

Epi/ Descriptive (18)

Clinical (18)

Health Services Research (21)

Non-specific / Other (6)

Phase of Continuum

Prevention/Risk Factors: 19
Screening/Early Detection: 17
Treatment/Management: 20
Not Phase-Specific: 11

Strategies

Enhance Cancer Surveillance (66)

Establish/ Enhance Monitoring & Evaluation (20)

Establish Research Infrastructure (31)

Develop Research Agenda (7)

Enable Research Conduct (16)

Focal Areas

Registry Operations (41)

Registry Linkages (2)

Registry Training (6)

Registry Development (11)

Registry Policy (6)

Research Collaborations (10)

Research Environment (21)

Table 1
Building Research Capacity (BRC) - Planned Strategies.

Strategies	Description
Enhance cancer surveillance	Cancer registry development or enhancement (national, regional, and/or local), including mandated reporting, case registration, abstraction, surveillance, technology use
Establish/Enhance Monitoring and Evaluation (M&E)	Data collection, monitoring, measurement, and evaluation system (e.g., indicators, quality improvement personnel); standardization, &/or processes for data acquisition to facilitate M&E of cancer control programs and services (NOTE: excludes cancer registry systems)
Establish Research Infrastructure	Governance and coordination structure development to ensure ethical research conduct; partnerships, consortia, collaborative research network development; creation of comprehensive, integrated data resources; developing research training
Develop Research Agenda	Activity to convene and identify research topics or questions
Enable Research Conduct	Supportive and facilitative research efforts (e.g. advocacy for research funding, fostering publications)

8.1
Delivering comprehensive cancer control: background

Fig. 8.1. Stages of implementation

ADOPTION OF NATIONAL PLAN	PREPARATION	IMPLEMENTATION	SCALE UP

Epidemiology
· Local burden of cancer
Economic Analysis
· Cost effectiveness
· Affordability
Policy Analysis

Infrastructure
· Health care buildings
· Procurement supplies & medicines
Referral Networks
· Define primary, secondary and tertiary facilities
Training Workforce Policy
· Health care Labour markets
· Regulatory standards (safety & quality)

Clinical interventions
Policies
Regulation
Legislation
Monitoring and evaluation framework

Sustainable financing
Training
Partnerships
· civil society
· academic institutions,
· national & international organizations
Research & Innovation

WHO World Cancer Report (2020)

3.3
Effective cancer prevention interventions

Table 3.1. WHO "best buys" for reducing the prevalence of risk factors for NCDs, including cancers

Action	"Best buy" intervention
Tobacco control	• Increase excise taxes and prices on tobacco products • Implement plain/standardized packaging and/or large graphic health warnings on all tobacco packages • Enact and enforce comprehensive bans on tobacco advertising, promotion and sponsorship • Eliminate exposure to second-hand tobacco smoke in all indoor workplaces, public places, public transport • Implement effective mass media campaigns that educate the public about the harms of smoking/tobacco use and second hand smoke
Prevent harmful use of alcohol	• Increase excise taxes on alcoholic beverages • Enact and enforce bans or comprehensive restrictions on exposure to alcohol advertising (across multiple types of media) • Enact and enforce restrictions on the physical availability of retailed alcohol (via reduced hours of sale)
Improve and increase physical activity, improve diet quality and reduce overconsumption leading to obesity	• Reduce salt intake • Implement community-wide public education and awareness campaign for physical activity which includes a mass media campaign combined with other community-based education, motivational and environmental programmes, aimed at supporting behavioural change of physical activity levels
Cancer prevention	• Vaccination against HPV to prevent cervical cancer • Prevention of cervical cancer by screening women aged 30–49 years through: visual inspection with acetic acid; Pap smears with cervical cytology or HPV test linked with timely treatment of pre-cancerous lesions (screening) (see also chapter 4)

3.5
Emerging science and programmes

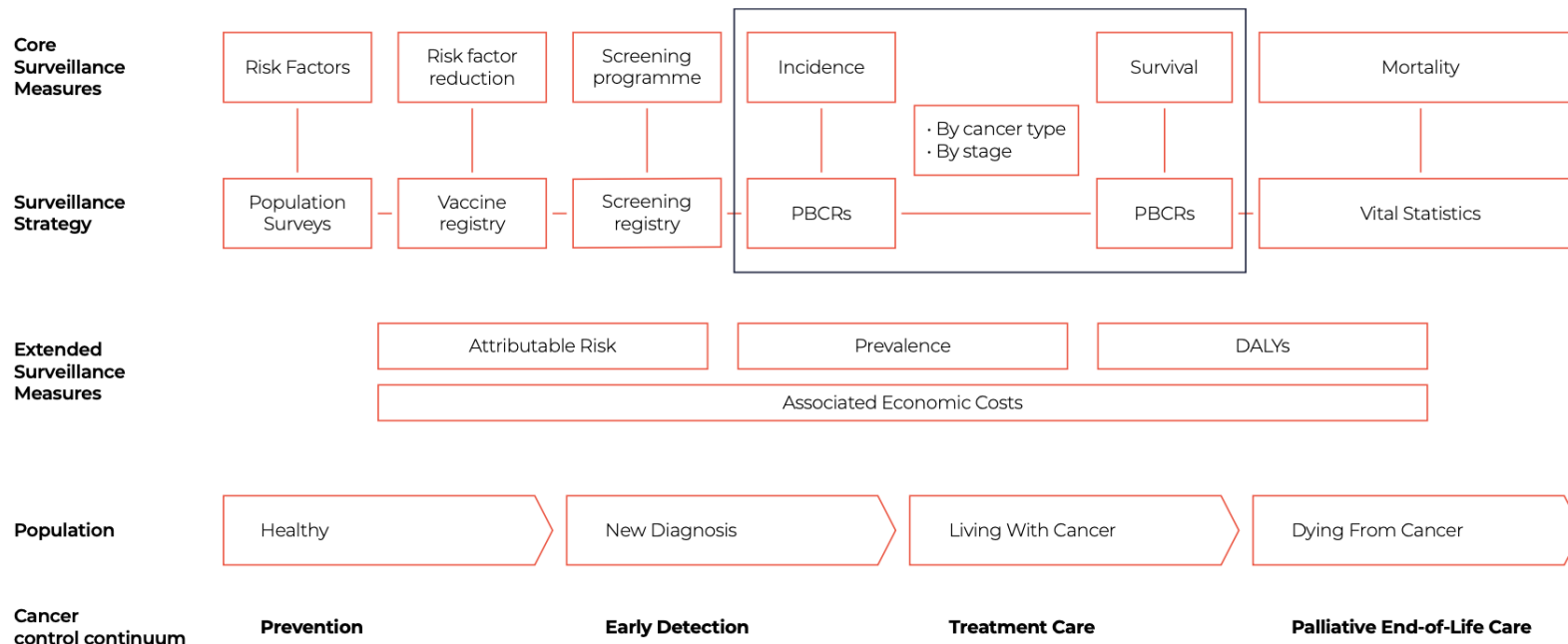**Table 3.4. Emerging science: selected activities from the IARC World Cancer Report (3)**

Type of carcinogen or approach	Risk factor	Type of emerging science	Examples of activities
Diet	Dietary exposures	Understanding linkages	Using tumour molecular pathology and -omics research, including genetics (section 3.2), metabolomics (section 3.7), and microbiome (section 3.10)
Infection-related cancers	HPV	Vaccine	Market shaping for prophylactic or therapeutic vaccine (section 2.2)
	H. pylori	Vaccine *H. pylori* eradication and screening	Combination of *H. pylori* eradication and screening for early disease (section 2.2)
Health services	Chemoprevention	Therapeutic medicines	Chemoprevention agents for gastric, breast, prostate and endometrial cancers (sections 5.3, 5.11, 5.13, 6.5)
Urban planning	Air pollution, physical inactivity	Innovative approaches to urban planning	Urban planning, e.g. with proximity to green spaces (section 2.9)
Metabolomics, epigenetics, microbiome	To be studied	Carcinogenesis, epidemiology	Study of molecular phenotypes, epigenetics or gene expression to improve identification of gene–environment interactions (section 3.3) Improved environmental sampling technology, biomarkers, genomics and informatics to measure exposome (section 6.9)
Information systems	All risk factors	Strengthening information systems	High-quality monitoring data on the magnitude and multi-dimensional aspects of social inequalities in cancer (section 4.1) Harmonizing assessment of dietary patterns and exposures (section 2.6)

Establishing a research agenda: Research tied to each goal in the NCCP

Fig. 6.2. Domains on which research can be conducted with data from basic and from advanced, data-enhanced cancer registries

Core Surveillance Measures	Risk Factors	Risk factor reduction	Screening programme	Incidence		Survival	Mortality
					· By cancer type · By stage		
Surveillance Strategy	Population Surveys	Vaccine registry	Screening registry	PBCRs		PBCRs	Vital Statistics

Extended Surveillance Measures	Attributable Risk	Prevalence	DALYs
	Associated Economic Costs		

Population	Healthy	New Diagnosis	Living With Cancer	Dying From Cancer

Cancer control continuum	**Prevention**	**Early Detection**	**Treatment Care**	**Palliative End-of-Life Care**

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Establishing a research agenda: Research to inform policy and practice in the NCCP

Kenya (2023-2027 National Cancer Control Strategy) Pillar 5: Strategic Information, Registration, Surveillance and Research

Strategic objective 5.3: Strengthen cancer research in Kenya

Strategy 1: Support and adequately resource a comprehensive cancer research agenda to inform policy

Activities
1. Revise the national cancer research agenda based on key priorities areas for cancer research in Kenya based on disease burden, patterns and trends.
2. Implement the national cancer research agenda.
3. Create a national cancer research repository for use by all stakeholders.
4. Create a knowledge translation/management mechanism for cancer research.
5. Create a data-sharing framework to promote cancer research and surveillance using data available at the established population-based cancer registries.

Strategy 2: Enhance adoption of cancer research into clinical and policy practice

Activities
1. Establish a cancer research centre of excellence in the country and optimise collaborations and synergy.
2. Make cancer research information available at the Kenya Health Research Observatory (KHRO).
3. Conduct cancer economic investment cases on priority cancer control topics in Kenya.
4. Develop and disseminate policy and evidence briefs from priority cancer research topics.
5. Formulate mechanisms for incorporating research findings into cancer protocols and policies.
6. Build research capacity for health care workers and other stakeholders at both national and sub-national level.
7. Expand community engagement in cancer research initiatives.

Building research capacity: Ensuring M&E of the NCCP

Malawi (2019-2029 National Cancer Control Strategic Plan) Thematic Area 6: Cancer Control Research, Monitoring and Evaluation

Objective 6.4: To improve monitoring and evaluation of cancer program Strategies

Strategies

1. Adapt standard IARC data collection tools and quality standards and ensure ICD-compliance

2. Develop detailed monitoring and evaluation plan.

3. Develop cancer reporting database

4. Develop cancer indicators and modernize cancer data collection methods.

5. Design and develop legislation on mandatory reporting of cancer (notifiable disease)

6. Produce annual progress reports on implementation of the strategy.

ICCP ECHO 2024 Cohort – NCCP research priorities

- 4 of 5 ICCP ECHO countries have research pillars in the NCCP. Table shows the main themes. Zimbabwe is still finalizing their NCCP, therefore not represented here.

Research Focus Area	Burundi	Eswatini	Nigeria	Sri Lanka
Priority setting	X	X		X
Capacity strengthening		X		X
Funding		X	X	X
Collaboration building		X		X
Conducting and disseminating research				X

Closing/Recap

- Why include research in the NCCP
  - Understand the local burden of disease
  - Address contextually relevant needs across the cancer continuum
  - Measure cost, accessibility, and impact of cancer control measures

- Key research components to include in the NCCP
  - Establishing the research agenda
  - Building research capacity (including cancer surveillance)
  - Developing research collaborations/partnerships
  - Ensuring dissemination and implementation of findings

www.cancer.gov   www.cancer.gov/espanol