ESMO GOOD SCIENCE BETTER MEDICINE BEST PRACTICE

CANCER WORKFORCE: COMPETENCIES TO PROVIDE INTEGRATED, PEOPLE-CENTRED CANCER CARE

It's about the people: assessing the gaps and planning the workforce

Alexandru Eniu, Romania
Cancer Institute "Ion Chiricuta", Department of Breast Tumors

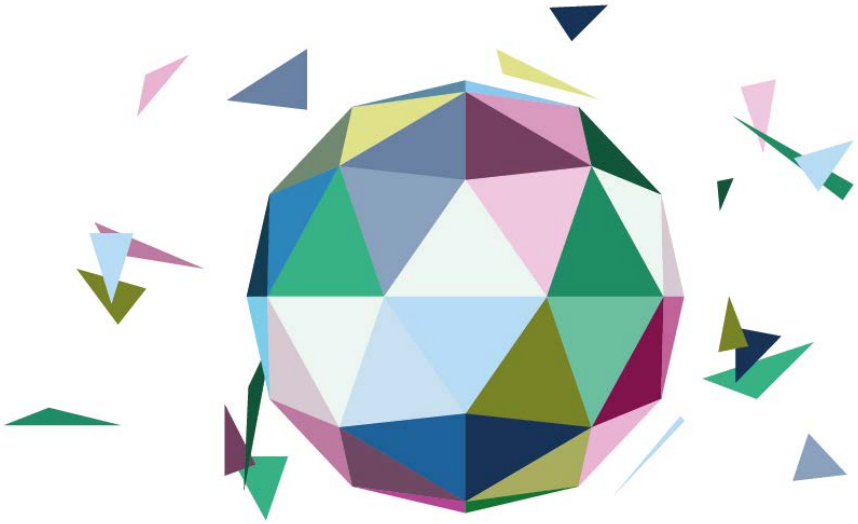
UICC World Cancer Congress, Kuala Lumpur, Malaysia, 4th October 2018

ESMO IN A NUTSHELL

Europe’s leading Medical Oncology Society

ESMO is the leading European professional organisation for medical oncology, working across Europe and around the world to erase boundaries in cancer care and to provide medical oncology education within an integrated approach to cancer care.

ESMO has over 18,000 members from 150 countries.



ESMO ASIA CONGRESS

Up to 25% of our members are based in the Asia-Pacific region

SINGAPORE 2018 ESMO ASIA

ESMO ASIA CONGRESS

SINGAPORE
23-25 NOVEMBER 2018

The ESMO Asia Congress keeps delegates up to date with the latest developments in the field of oncology research and clinical practice in a way that is relevant to the region and provides the opportunity for networking with local and international peers

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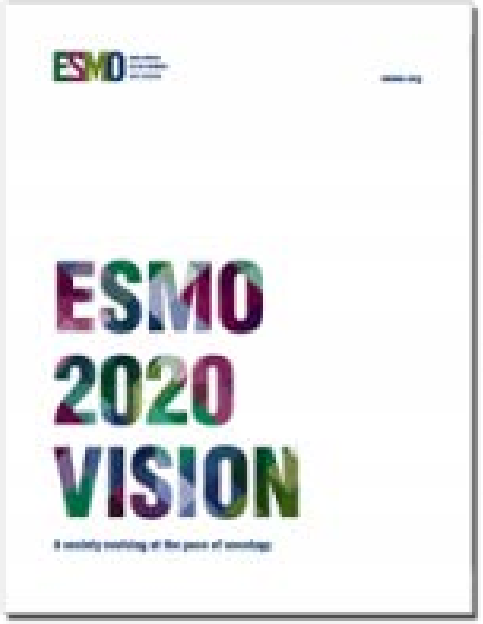
ESMO'S 2020 VISION: ACCESS TO CANCER CARE

ESMO's 2020 vision statement recognises that progress in the management of cancer care can and will only occur when high quality care is both available and affordable to everyone everywhere!

ESMO's vision supports that of World Health Organization and the United Nations, which is to reduce mortality from cancer and promote universal health coverage because health is a basic human right.



UNITED NATIONS

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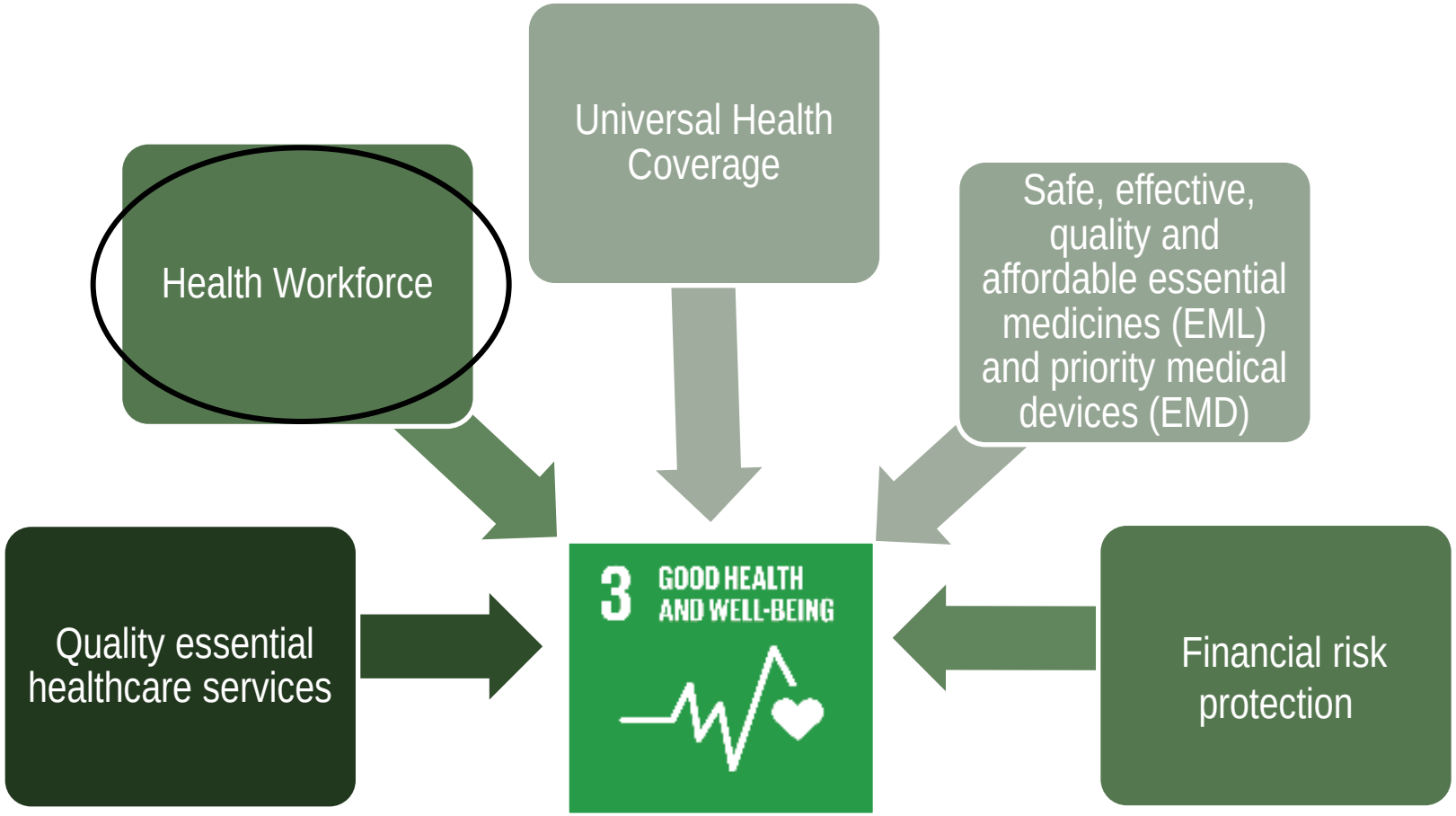
UN SUSTAINABLE DEVELOPMENT GOAL 3: HEALTH

Reduce premature mortality from non-communicable diseases, which include cancer, by one-third by 2030



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2016 WHO GLOBAL STRATEGY FOR HUMAN RESOURCES ON HEALTH: WORKFORCE 2030

Objective: To improve health, social and economic development outcomes by ensuring universal availability, accessibility, acceptability, coverage and quality of the health workforce

Evidence-based policies to optimize the workforce

- To optimize performance, quality and impact of the health workforce through evidence-informed policies on human resources for health, contributing to healthy lives and well-being, effective universal health coverage, resilience and strengthened health systems at all levels.

Catalyse investment in health labour markets

- To align investment in human resources for health with the current and future needs of the population and of health systems, taking account of labour market dynamics and education policies; to address shortages and improve distribution of health workers, so as to enable maximum improvements in health outcomes, social welfare, employment creation and economic growth.

Build institutional capacity and partnerships

- To build the capacity of institutions at sub-national, national, regional and global levels for effective public policy stewardship, leadership and governance of actions on human resources for health.

Collect data for monitoring and accountability

- To strengthen data on human resources for health, for monitoring and ensuring accountability for the implementation of national and regional strategies, and the WHO Global Strategy.

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2017 WHA 'CANCER RESOLUTION'

World Health Organization

SEVENTIETH WORLD HEALTH ASSEMBLY

Cancer prevention and control in the context of an integrated approach

The 2017 WHO Cancer Resolution demonstrates the importance the WHO and its member states place on the need to address cancer as a leading cause of death worldwide. It calls for countries to promote the optimisation of the current oncology workforce, and anticipate its future requirements.

http://apps.who.int/gb/ebwha/pdf_files/WHA70/A70_ACONF9-en.pdf?ua=1

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THE CHALLENGE: MISSING 18,000 HEALTHCARE PROFESSIONALS

The UN High-Level Commission on Health Employment and Economic Growth estimated a shortage of 18,000,000 healthcare professionals to attain the UN Sustainable Development Goals by 2030. The WHO Africa Region (AFRO) will lack twice as many healthcare professionals as the other regions.

http://www.who.int/news-room/detail/20-09-2016-un-commission-new-investments-in-global-health-workforce-will-create-jobs-and-drive-economic-growth

http://apps.who.int/iris/bitstream/handle/10665/272941/9789241514149-eng.pdf?ua=1

CANCER WORKFORCE: KEY TO UNIVERSAL HEALTH COVERAGE

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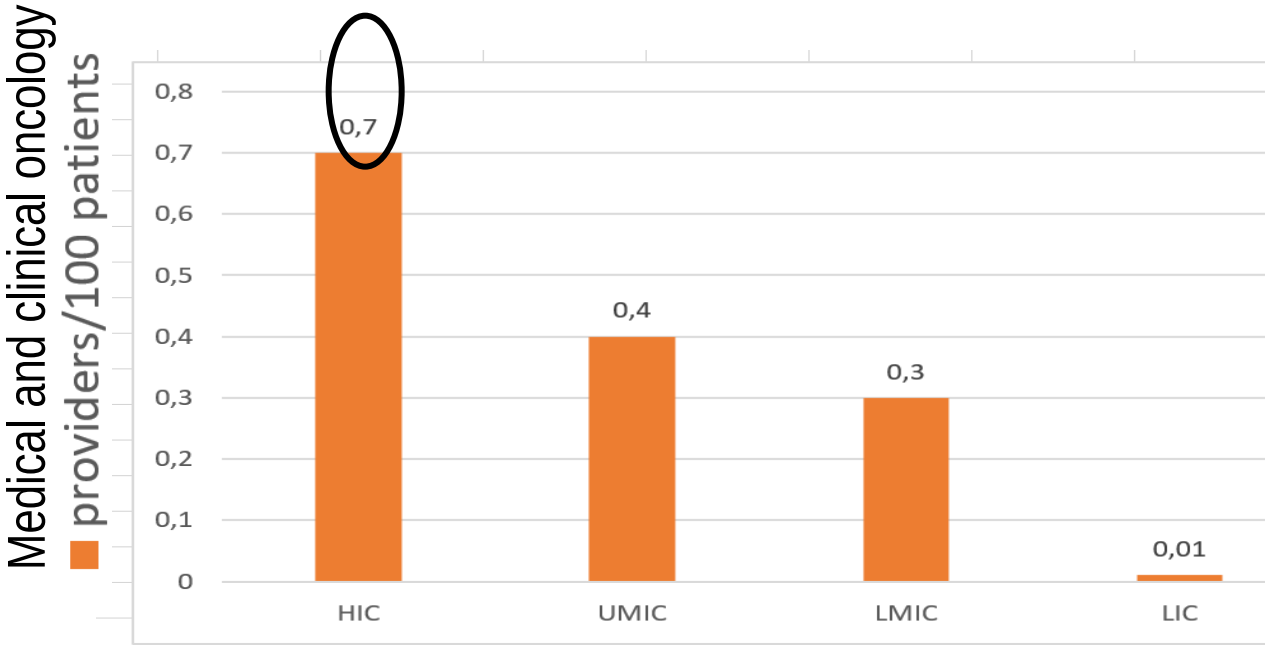
HOW WILL WE OPTIMIZE THE CANCER WORKFORCE?

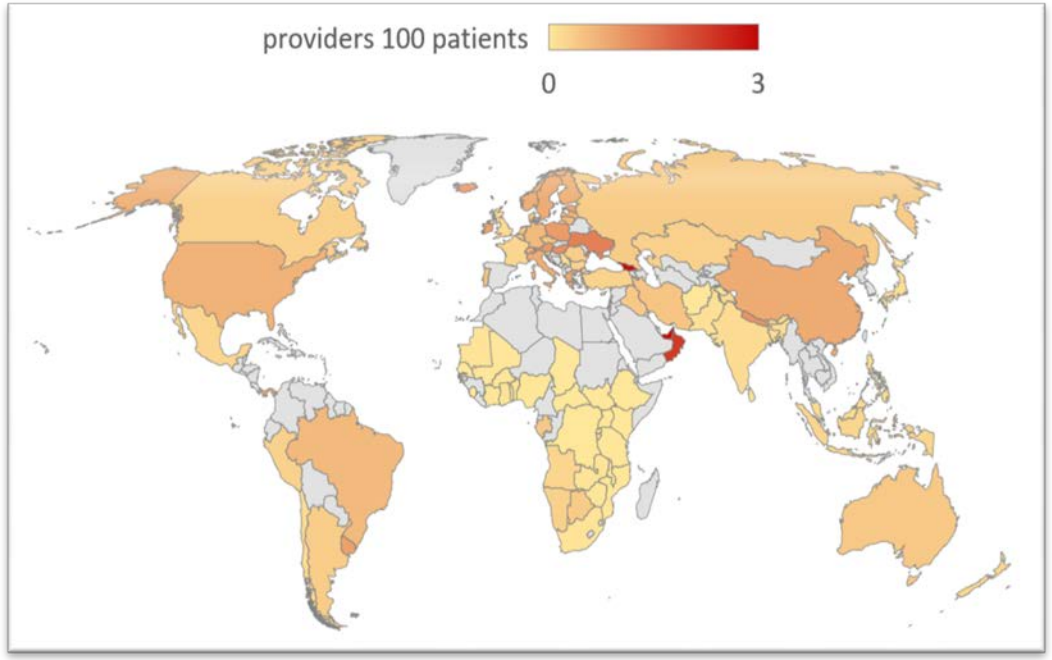
WHO Health Workforce Optimization Study for Cancer Care
in partnership with
ESMO

WHO WORKFORCE STAFFING TOOL: PROVIDER-PATIENT RATIOS

A literature reviews shows that high-income countries have a good overall ratio of all providers (0.7), while low- and middle-income countries have workforce shortages. On the global map below, the lighter the color, the lower the ratio of providers to patients. This data is not yet published.



High, Upper-Middle, Low-Middle, and Low-income countries

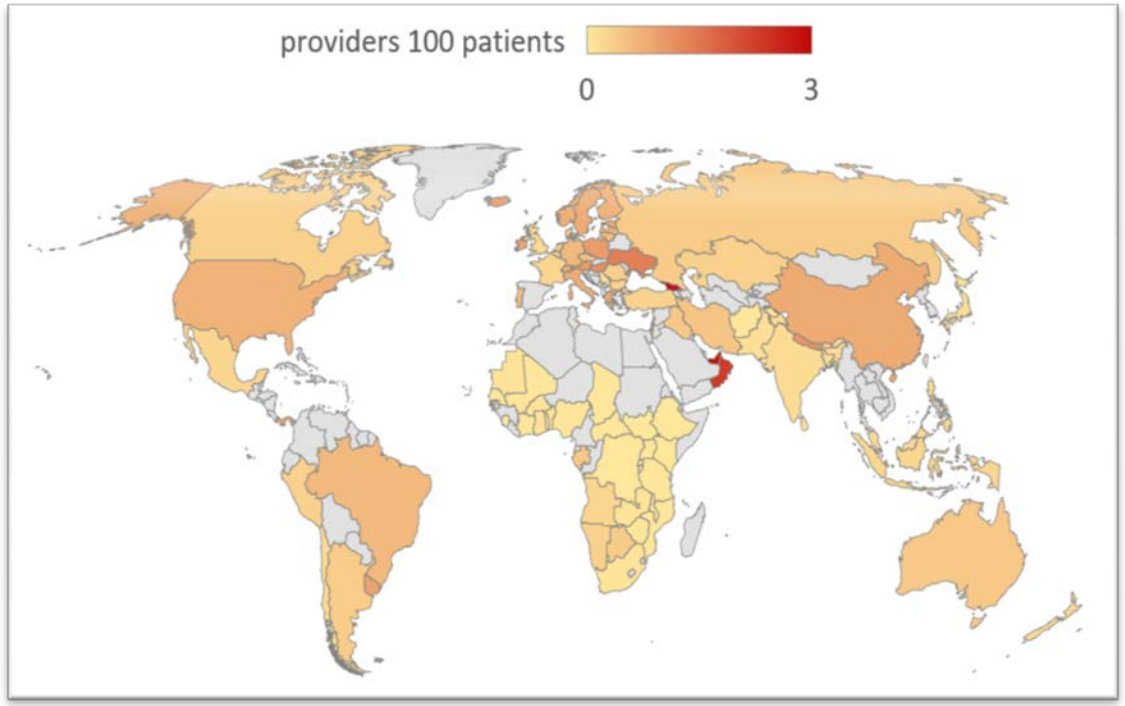


Medical and clinical oncology providers per patient

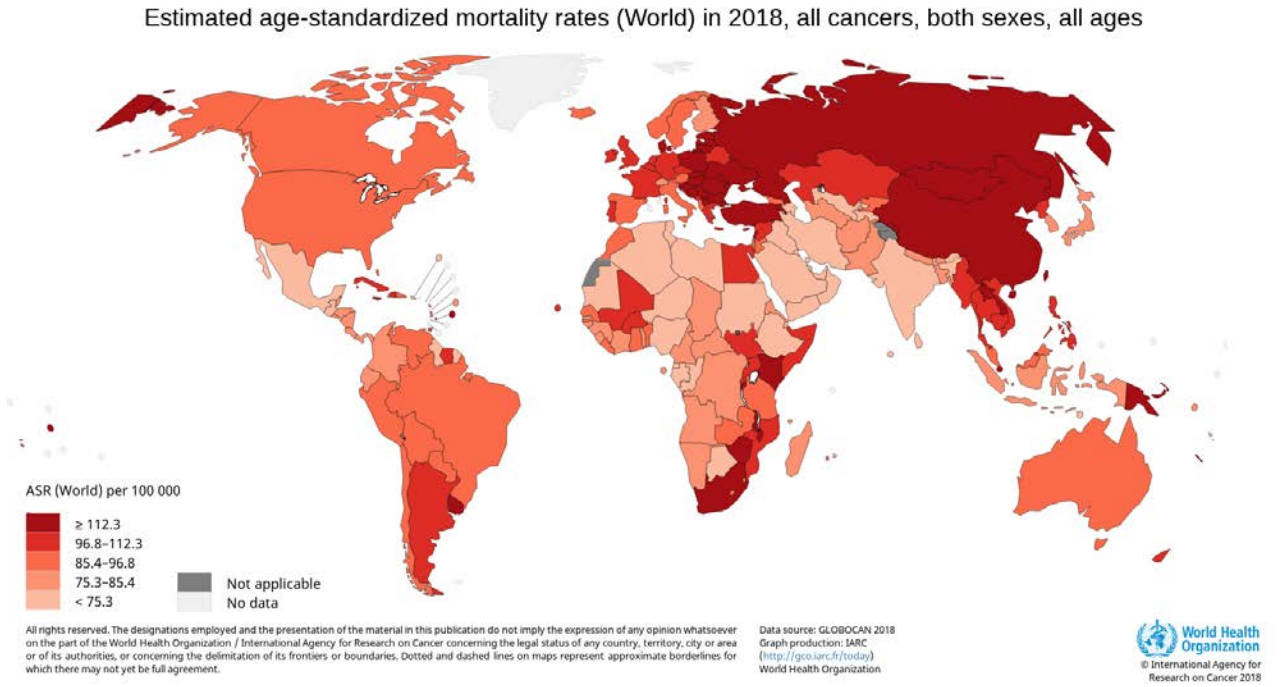
Unpublished data

PROVIDER-PATIENT RATIOS AND PATIENT OUTCOMES

How provider to patient ratios correlate to patient outcomes:
Fewer providers (light yellow) correlates to higher mortality (dark red)



Globocan 2018 Data



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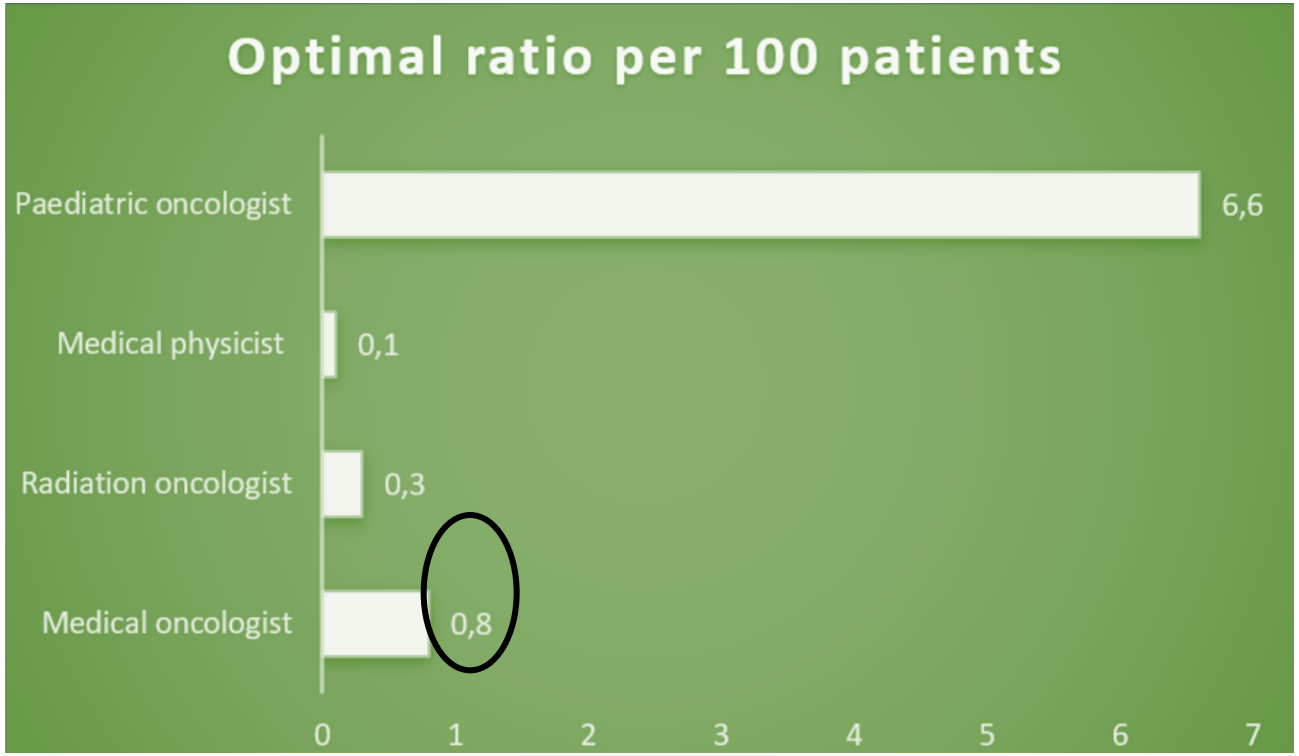
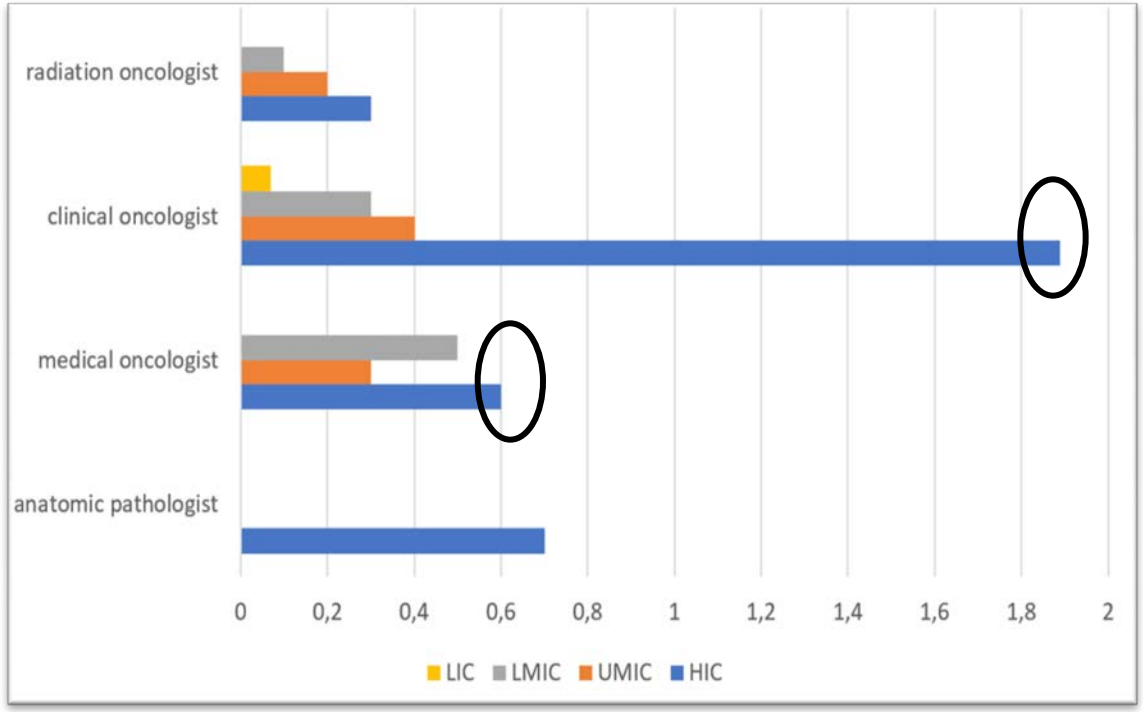
WHAT THE LITERATURE TELLS US: HOW MANY ONCOLOGISTS DO WE NEED?

Optimal ratios



Current ratios



Providers per 100 cancer patients based on country income levels *

Rivera et al, 2017; SIOP estimations; Slotmab BJ et al,2013

* Unpublished data. Average values per income levels validated through literature search and expert consultations. Values for LMIC and LIC are estimates.

WHO WORKFORCE STAFFING TOOL: THE MODEL

Unpublished data

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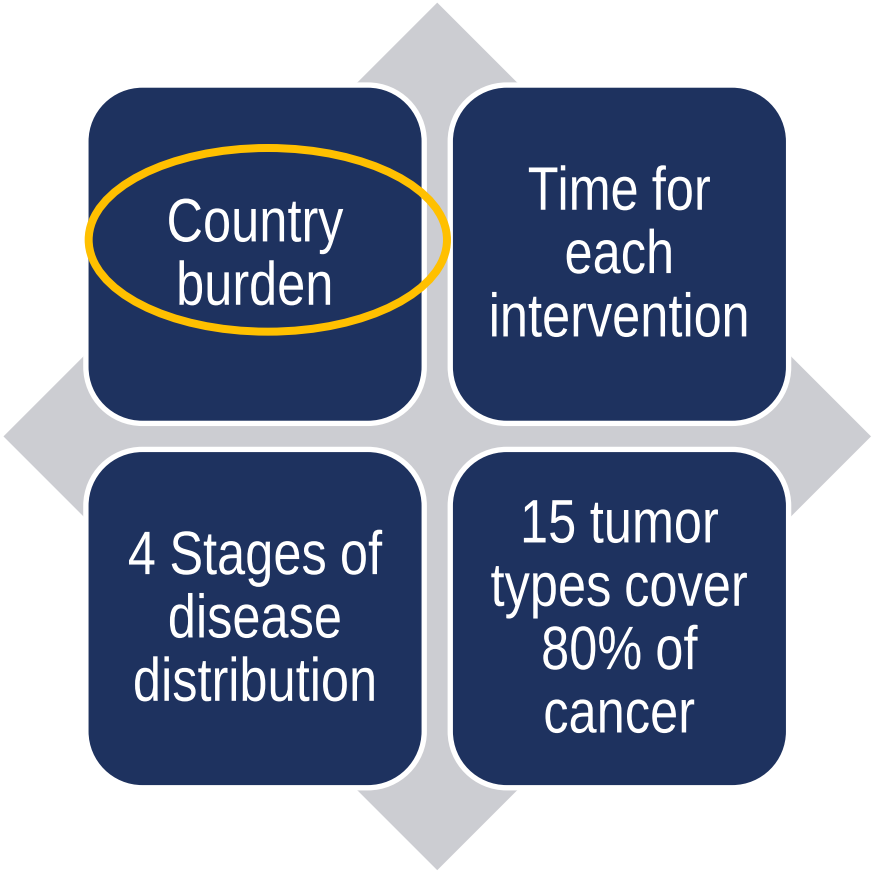
WHO WORKFORCE STAFFING TOOL: THE WORKLOAD ESTIMATION



Number of providers for 100 cancer patients
instead of
Number of providers per 1,000 inhabitants

Unpublished data

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WHO WORKFORCE STAFFING TOOL: INPUT OF COUNTRY-SPECIFIC DATA

Example: regional cancer burden and stage distribution for lung cancer (data from one UK cancer registry)

LUNG C34	Stage Distribution in %			
Incidence	Stage I	Stage II	Sage III	Stage IV
4,038	20%	10%	30%	40%

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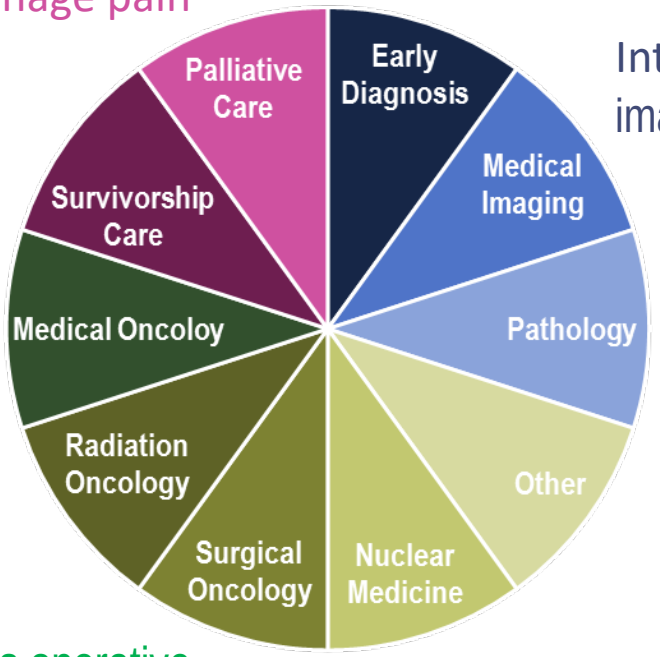
WHO WORKFORCE STAFFING TOOL: TIME CALCULATIONS

Manage pain

Interpret/acquire imaging

Interpret specimen

Ensures safe dose administration of chemotherapy



Performs operative resection

Unpublished data

Versus: X oncologists per 100 patients

15 Tumour Types

- Lung
- Breast
- Colorectal
- Prostate
- Stomach
- Liver
- Cervix Uteri
- Corpus Uteri
- NHL
- Leukaemia
- Lip, Oral Cavity
- Oesophagus
- Bladder
- Kidney
- Pancreas

- The time to perform medical interventions for the entire cancer continuum for 4 stages of 15 tumor types.
- Workload estimate calculated based on the required time in minutes for each competency per year.
- Data validation obtained through literature search and expert consultation.

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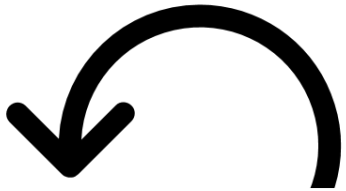
WHO WORKFORCE STUDY: GLOBAL STRATEGY COMPONENTS

Training of the Workforce



Inflow / Outlfow of people in the Workforce

Maldistribution / Inefficiencies of the functioning of the Workforce

Regulation of private sector workforce

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WHO WORKFORCE STUDY: SURVEY FOR DATA GATHERING

Module 1: The Cancer Workforce

Module 2: Education and early career development

Module 3: Regulation of professional qualtifications

Module 4: Professional associations

Module 5: Policies, national cancer plans and legislation

Module 6: Cancer workforce planning models and infrastructure

Module 7: Country progress

WHO WORKFORCE STUDY: MODELLING SCENARIOS

Modelling Scenarios

1. Increase in the number of graduate oncology professionals
2. Reduce the voluntary attrition rate of oncology professionals
3. Change in the number of cancer cases
4. Increase in intervention efficiency
5. Optimization of existing workforce
6. Combination of increased intervention efficiency and optimization

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HOW GLOBAL STRATEGY FEEDS INTO WORKFORCE MODELLING SCENARIOS

Global Strategy Components

Policies on production
- on infrastructure and material
- on enrolment
- on selecting students
- on teaching staff

Policies to address inflows and outflows
- to address migration and emigration
- to attract unemployed health workers
- to bring health workers back into the health care sector

Policies to address maldistribution and inefficiencies
- to improve productivity and performance
- to improve skill mix composition
- to retain health workers in underserved areas

Policies to regulate the private sector
- to manage dual practice
- to improve quality of training
- to enhance service delivery

Workforce Modelling Scenarios

1. Increase in the number of graduate oncology professionals
2. Reduce the voluntary attrition rate of oncology professionals
3. Change in the number of cancer cases
4. Increase in intervention efficiency
5. Optimization of existing workforce
6. Combination of increased intervention efficiency and optimization

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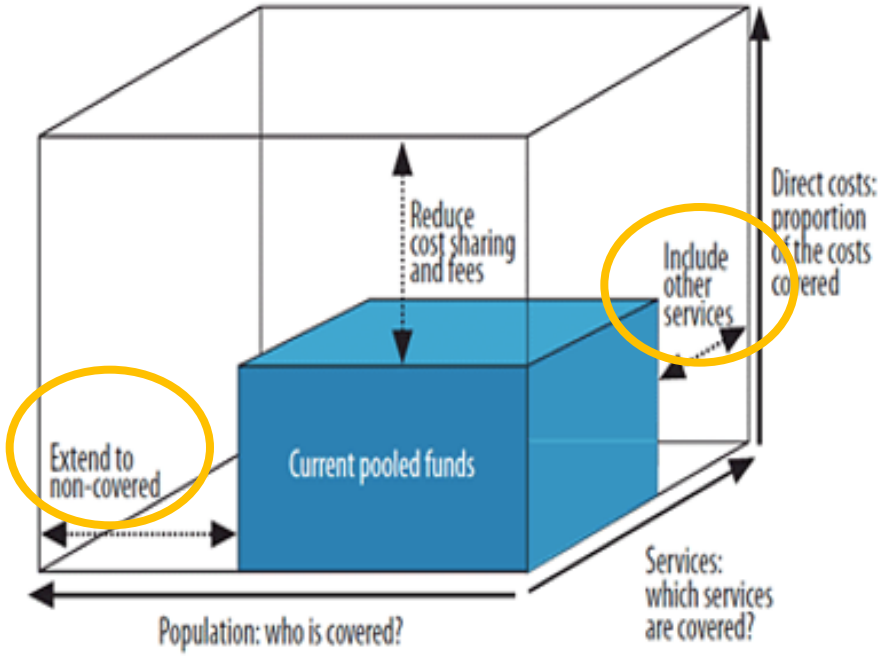
WHO WORKFORCE STUDY: THE OUTPUTS



Three dimensions to consider when moving towards universal coverage

<u>Goal</u>: to expand health coverage and other services by including workforce policies in national cancer control plans

<u>Step 1: WHO tool for comprehensive situational analysis</u>

- Identifies gaps and inefficiencies in cancer workforce
- Estimates workforce requirements for strategic staffing

<u>Step 2: In-country policy formulation and technical support</u>

- Identifies evidence-based, context-appropriate policies
- Facilitates technical cooperation
- Defines health system capacities and workforce competency

TAKE-HOME MESSAGES

- Good health is a basic human right and a prerequisite for sustainable development.
- Universal Health Coverage cannot be achieved without rapid scale-up of the health workforce and expanding health coverage to the entire population.
- Workforce needs must be linked to national priorities for cancer programmes, and planned and budgeted for in national cancer control plans.
- Effective short-, medium- and long-term health workforce strategies exist and should be implemented.
- WHO will provide guidance and tools to governments to implement these strategies and will support countries to be able to tailor them to their national needs.
- WHO is working in partnership with ESMO to launch a cancer workforce study whose global impact will be key to achieving universal health coverage and saving lives.

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THANK YOU!

@aleniu@iocn.ro

Cancer workforce: competencies to provide integrated, people-centred cancer care – a pilot from two countries

Supporting the cancer workforce to develop the skills needed to meet the holistic needs of people living with cancer to support delivery of person centred care

Dr. Fran Woodard, Executive Director Policy and Impact
Macmillan Cancer Support

World Cancer Congress
Kuala Lumpur, Malaysia
1—4 Oct 2018

Strengthen
Inspire
Deliver

uicc global cancer control WORLD CANCER CONGRESS

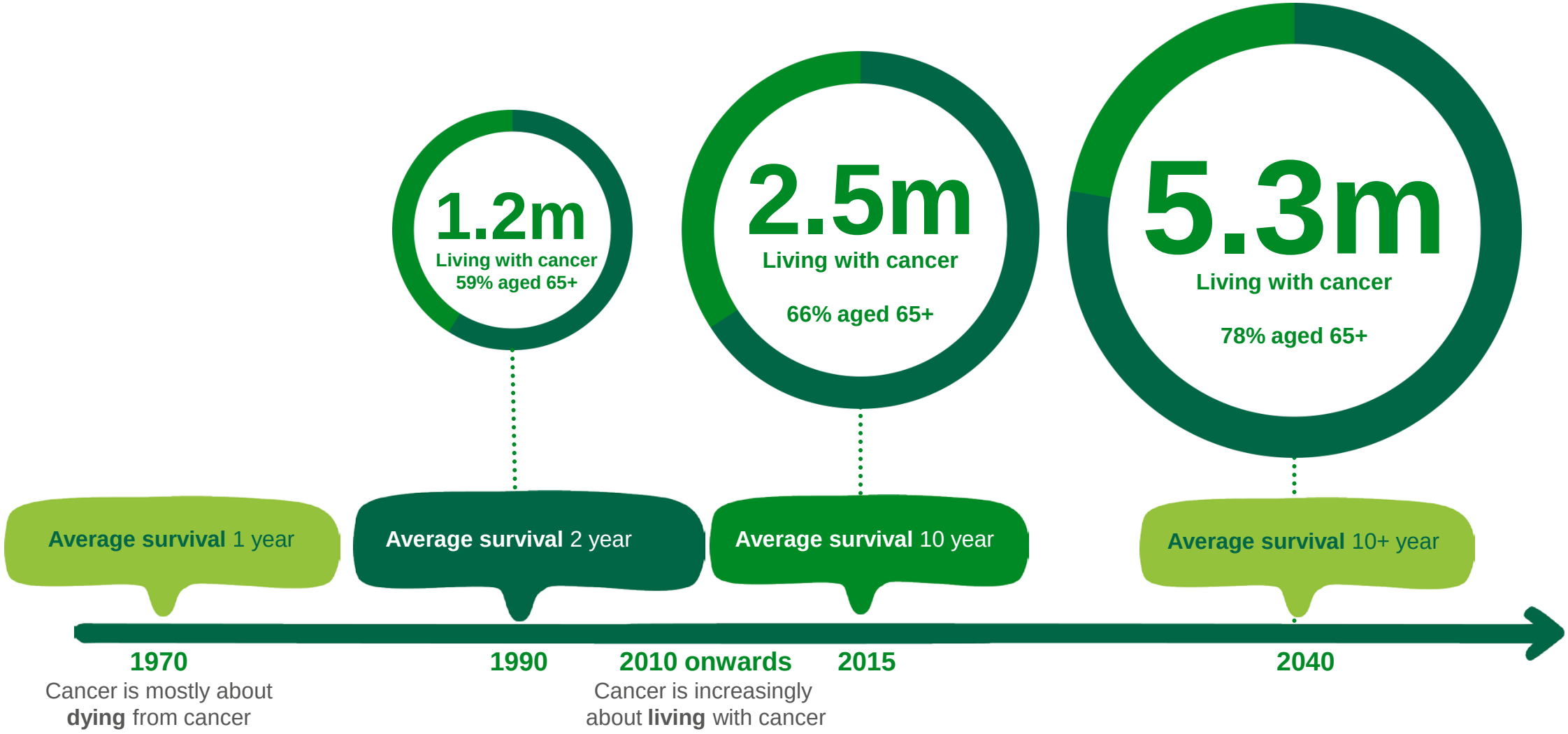
Track **Improved and sustainable healthcare systems for better outcomes**

Disclosure of interest: None declared

Content

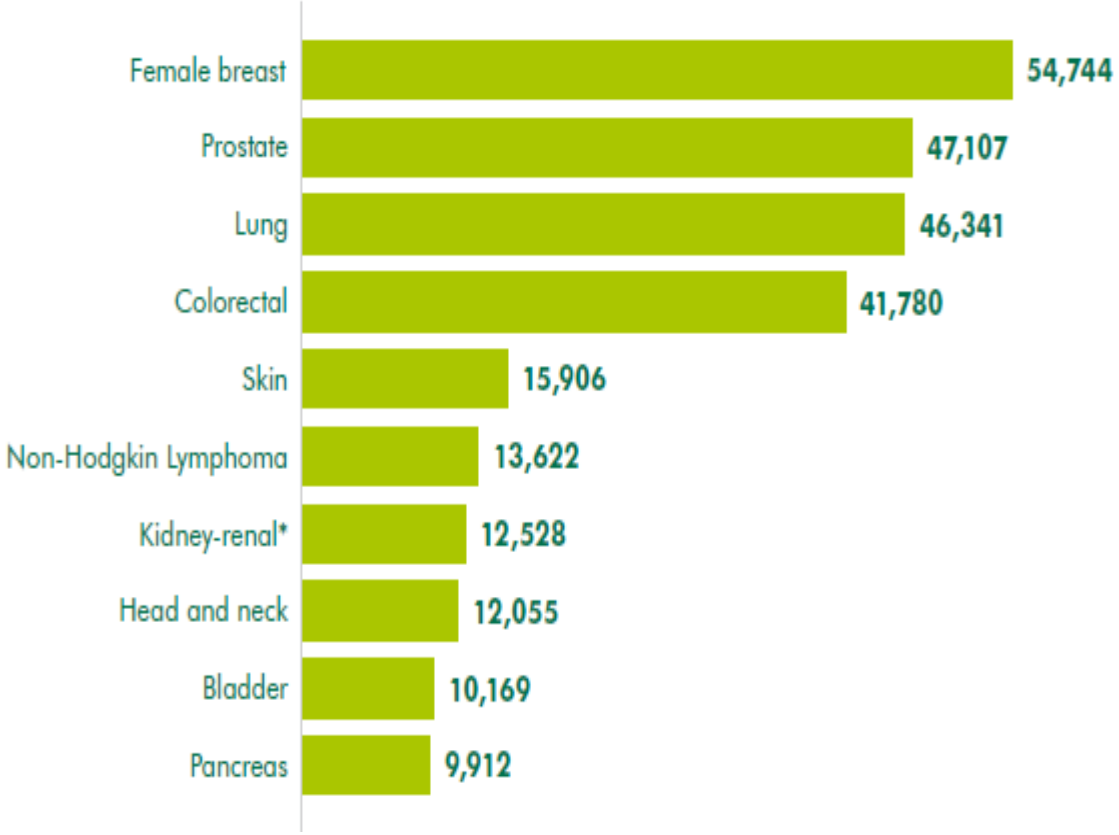
1. Cancer population context for UK
2. Workforce challenges and understanding the workforce
3. Understanding needs of people with cancer
4. Solutions – workforce and models of care delivery
5. Influencing

The big picture for cancer in the UK



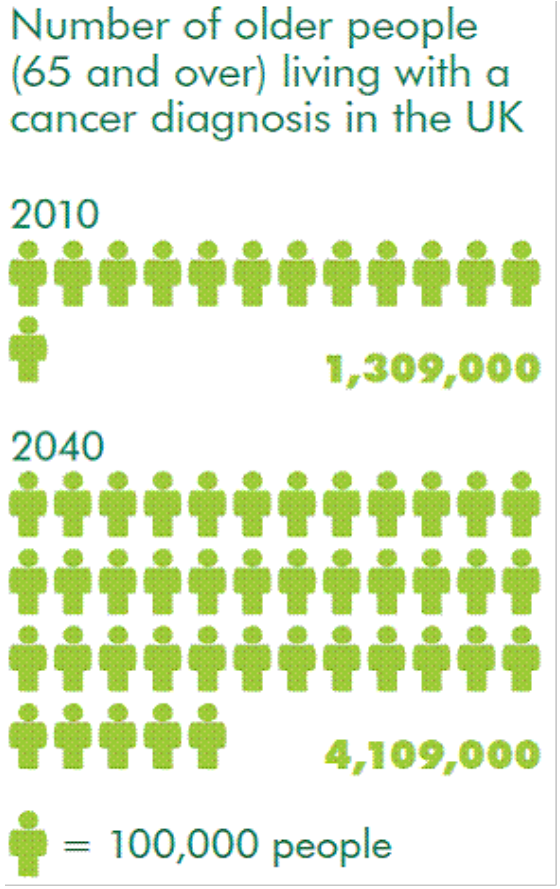
Cancer context and population in the UK

Almost 360,000 people in the UK diagnosed with cancer every year



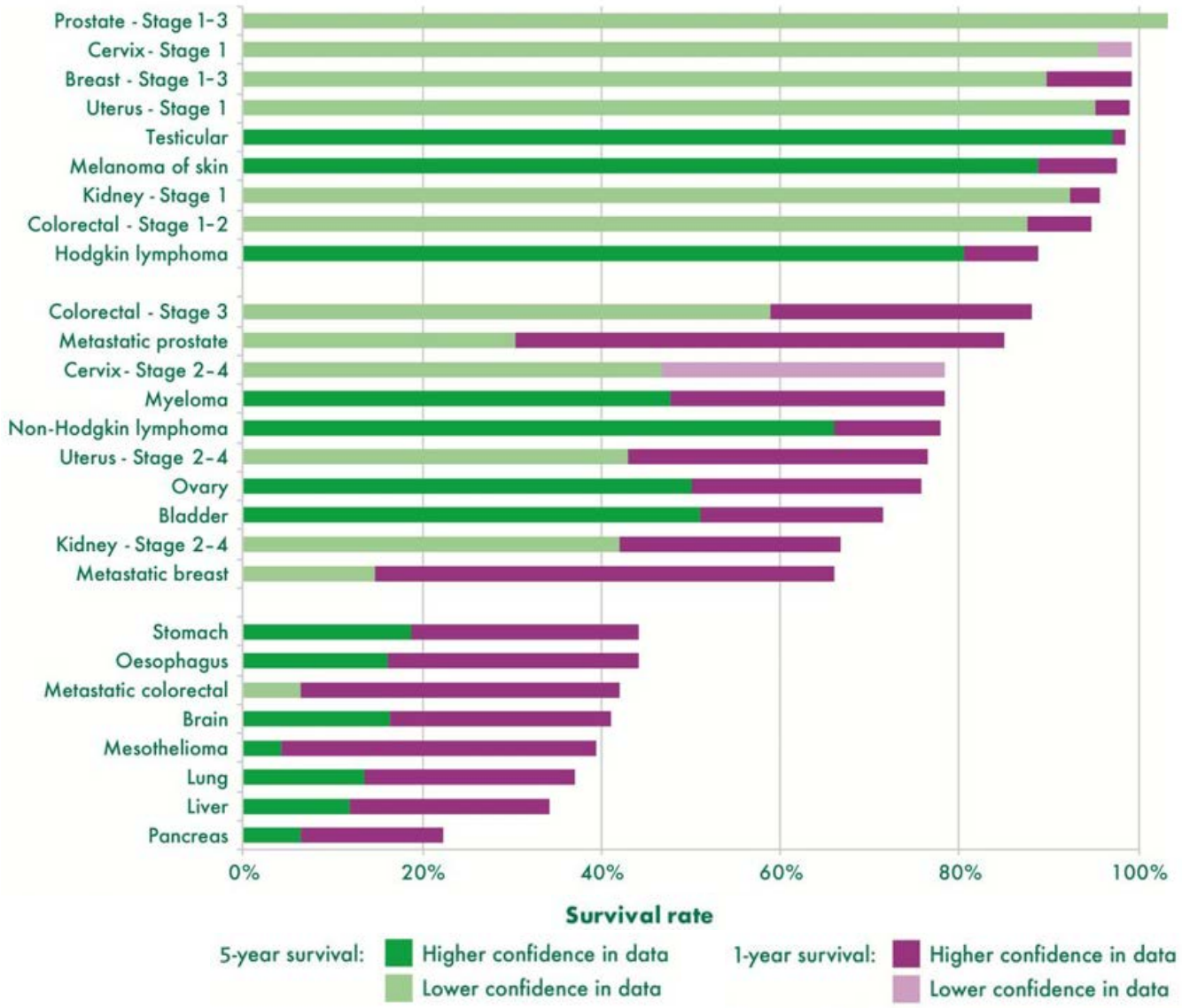
*calculated using ICD-10 codes C64–C66, C68.

Older people living with cancer will treble by 2040



1. Maddams J, Utley M and Møller H. 2012. Projections of cancer prevalence in the United Kingdom, 2010–2040. *British Journal of* Cancer advance online publication 14 August 2012; doi: 10.1038/bjc.2012.366 http://www.nature.com/bjc/journal/vaop/ncurrent/abs/bjc2012366a.html. Projections scenario 1 presented here.

Broadly 3 groups of cancer – pathways are different



Group 1
Many live for more than a decade

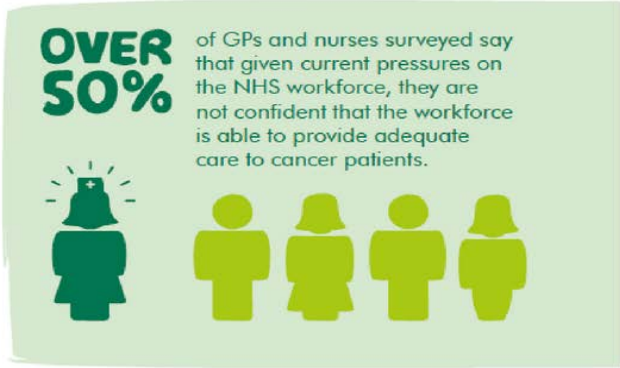
Group 2
Most similar to a long-term condition

Group 3
Survival for the majority is short term

McConnell H, White R, Maher J. Categorising cancers to enable tailored care planning through a secondary analysis of cancer registration data in the UK. *BMJ Open* 2017;**7**:e016797. doi: 10.1136/bmjopen-2017-016797

Workforce are under pressure

- **11.1 per cent** of NHS nursing posts are vacant, with over **40,000** registered nurse vacancies – nearly **double** that in 2013 (RCN, 2017).
- There is a heavy reliance on agency staff – equating to **30,000** full-time equivalent nurses.
- The number of nurses employed by the NHS has fallen for the first time on a year-on-year basis since 2013.
- In 2015, nearly half the nursing workforce was aged 45 or over, with 14 per cent aged over 55.
- The average age of a nurse leaving the NMC register has reduced steadily from 55 years of age in 2013 to 51 in 2017.



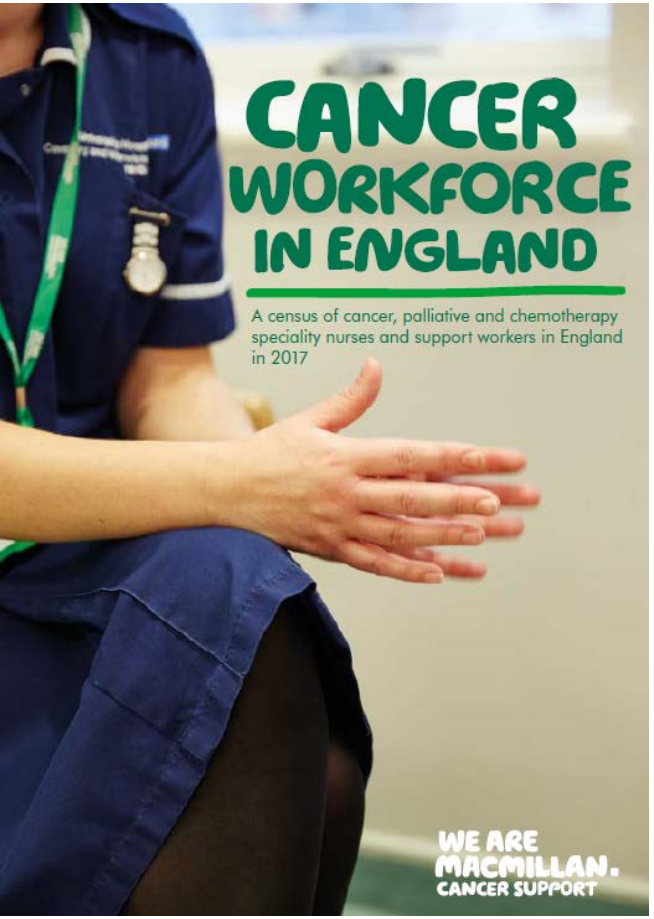
Summary of challenges

- More people living longer with cancer
- People with cancer and other long term conditions
- An ageing population
- A workforce that is stretched that requires different ways of working, knowledge and skills
- Lack of joined up coordinated care across sectors

How we understand the size of the problem to find solutions

- Know the current and future workforce picture
- What the challenges are for the workforce
- What the challenges are for people with cancer

Workforce census – to understand the size, state and composition of the non-medical cancer workforce



Who?

- Specialist cancer nurses
- Adult Chemotherapy nurses
- Cancer Support Workers (band 3 and 4 used in this analysis)
- Specialist palliative care nurses (who see over 50% cancer patients)

What?

- Job title
- Agenda for Change banding
- Area of practice
- Specialist training required for the post *
- If post covers Cancer of Unknown Primary
- If post covers Secondary/ metastases *
- If post filled or vacant
- Gender
- Age band
- WTE
- Proportion of time in cancer *
- Macmillan badged
- Nationality *
- Setting *
- Location of care *
- Country
- Region
- Provider

Adult cancer and palliative care workforce Census (England & Wales)

* New

Whole time equivalent numbers for each role

The report provides information about four different types of posts employed within the NHS (numbers are calculated based on whole time equivalents (WTE) working in cancer):

4,020 Specialist cancer nurses

2,686 Adult chemotherapy nurse posts

635 Cancer support workers

978 Specialist palliative care nurses

A survey via the four Professional Bodies that represent Dietitians, Occupational Therapists, Physiotherapists and Speech and Language Therapists across the UK.

Rehabilitation is a central element of cancer care. Although many AHPs do not work solely with those with cancer, their role is vital in supporting people living with cancer.

To **better understand** the **composition** and **cancer caseload of the AHP workforce**, we invited everyone from 4 of the professions to take part in an online survey.

Composition → Age, gender, pay bands, setting, funding.

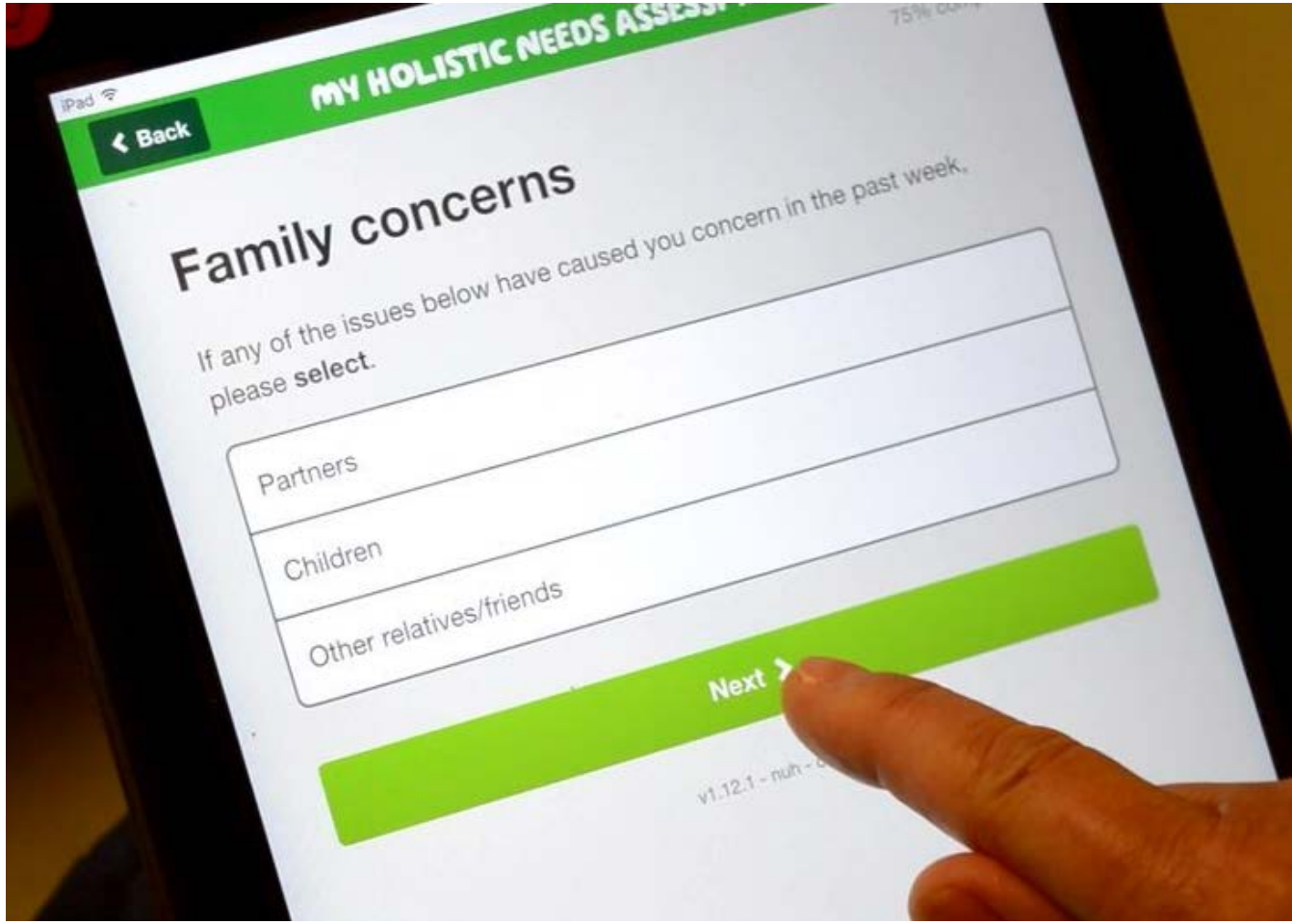
Cancer caseload → The proportion that supports PLWC, their average cancer workload, which cancer types they saw & which interventions they carried out.

We’re using data to understand the needs of people living with cancer

Electronic Holistic Needs Assessment

It’s how the needs of people living with cancer can be assessed and met

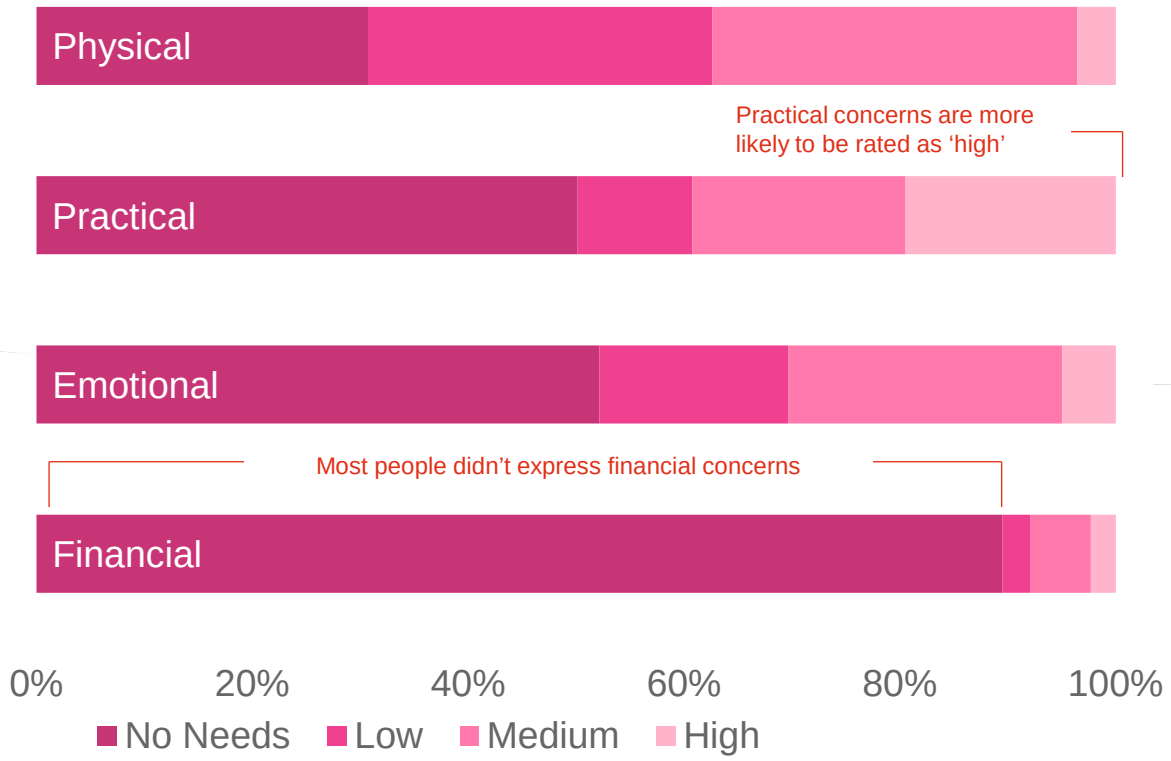
It collects valuable data which can tell us how we’re doing against our objectives



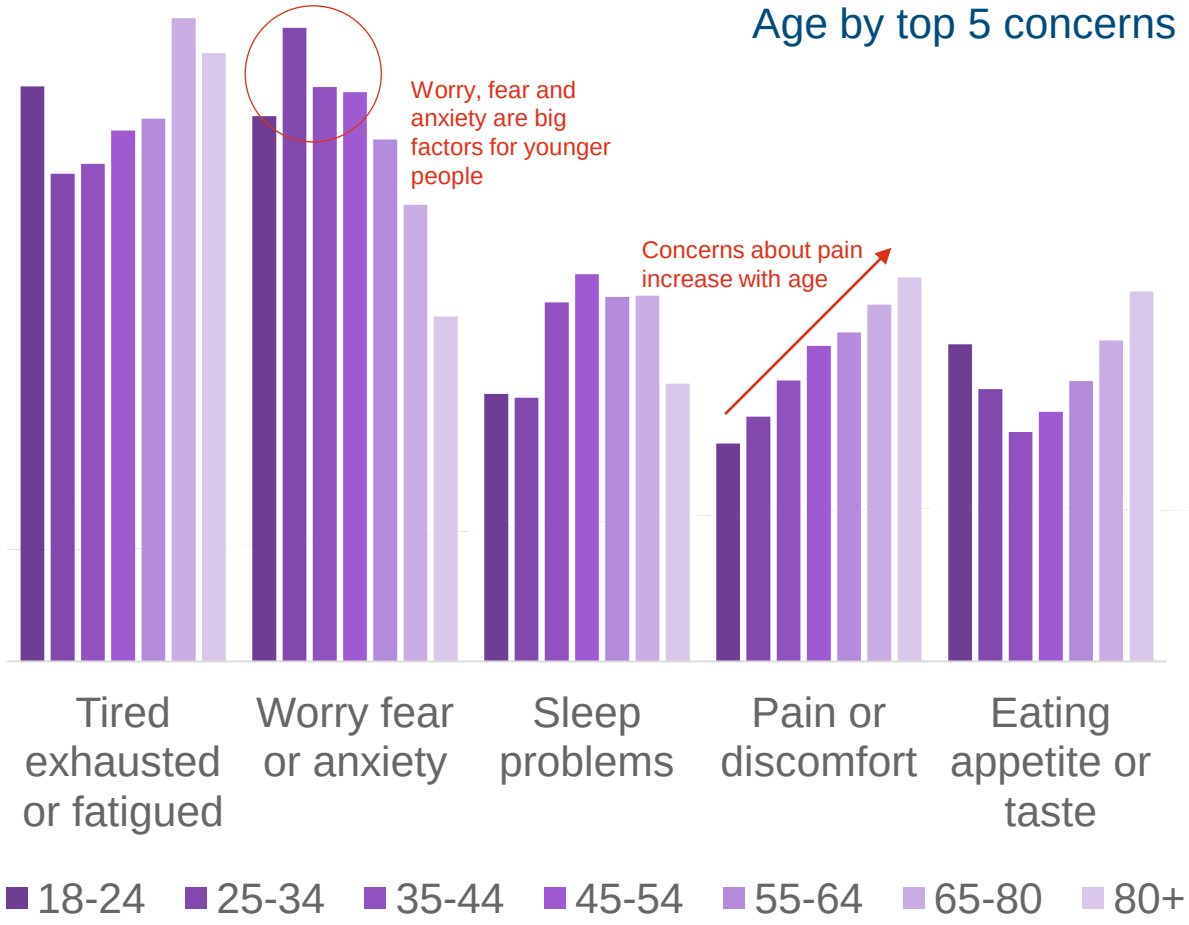
Complexity

"How do we get thousands of rows of concerns data into a meaningful message? How do we fit this in to types of need?"

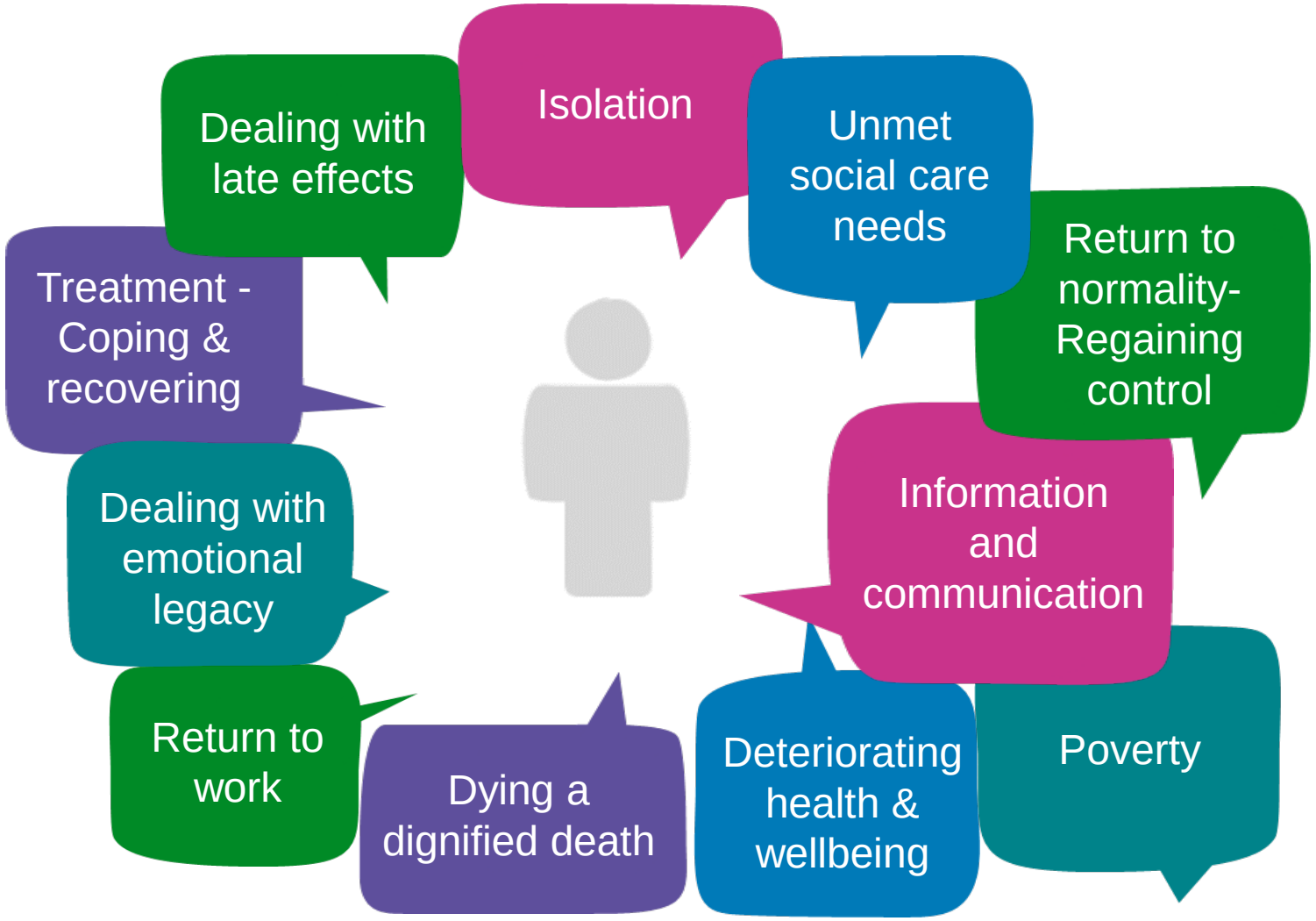
EHNA Outputs Jun 2017 -Jun 2018



Age by top 5 concerns



Understanding needs



Approaches – improving training and competencies

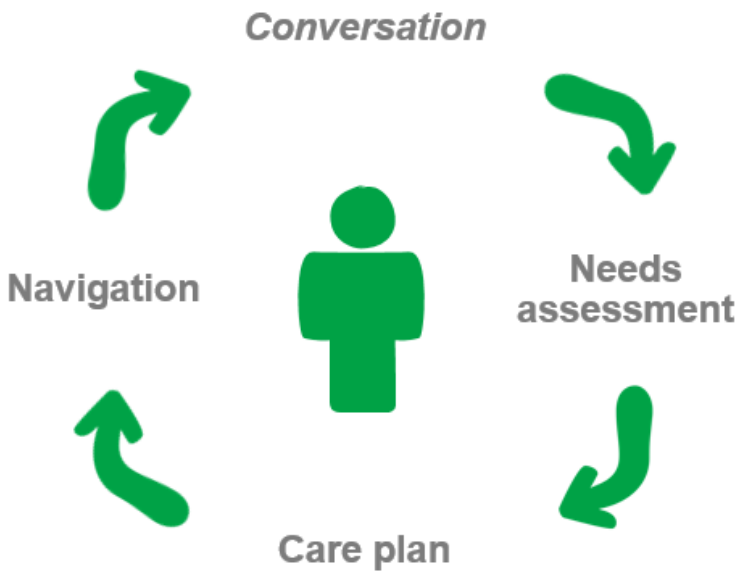
- Improving career pathways to and through specialist cancer roles.
- Improving skill mix and introducing new types of cost-efficient roles.
- Enhancing the skills and confidence of existing staff, and communication between them.
- Competency based approach

Approaches – different ways of working

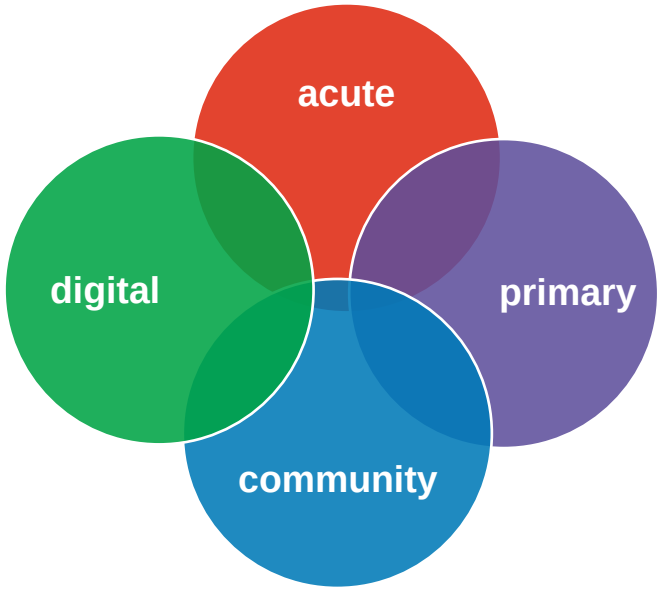
- Improving ways of working.
- Interventions that enable personalisation
- Exploring how new ways of understanding the cancer population to support workforce planning based on ***need*** rather than tumour type

Personalised Care

What:



Where:



How:

Models to support personalised care and support

Recovery Package - a set of interventions to assess, plan, coordinate and communicate

- The Recovery Package seeks to provide people diagnosed and living with cancer the support they need to lead the best possible life they can.
- To do this the Recovery Package contributes to improving patient experience and personalisation of care, which can impact some quality of life and health outcomes for some people.
- It aims to ensure that from diagnosis, or soon after diagnosis, people’s changing needs are identified and addressed so that their care is person-centred and their health and wellbeing needs are supported.

Competency based framework for person centred support of people living with cancer

What is the problem and how can a framework help?

Problems

- Evidence indicates that people living with cancer have common unmet needs across the cancer pathway
- The workforce does not routinely address those needs in a timely way
- The workforce is not routinely optimising the combined skills of team to address needs

Solution

- Clarify what competencies are needed at what level in the workforce to address common unmet needs
- Use this to assess existing teams levels of competency
- Work with teams to identify possible solutions e.g. training or new roles

Shifts we want to see

Developing framework and capability to deliver workforce improvement

Now	Action	Future
• Unclear about who does what	• Define competencies required at each level	• Job descriptions based on clearly defined competencies
• Varied approaches to workforce development	• Develop training & resources in using competency framework	• Standardised evidenced based approach to workforce development
• Person centred care is patchy	• For each common unmet need define competencies required	• Clarity about mix of competencies required according to patient need
• Varied and unclear requirement for training needs	• Assess teams current competencies against framework	• Identify gaps in competencies and agree action plan to address

Illustration - workforce competencies required for fatigue

Skill type/ level	Unregistered	Registered	Advanced
Assess			
Plan/ treat			
Enable			
Link			

Screen for treatable causes such as anaemia, hypothyroidism, depression, anxiety, weight loss, pain, medication side effects, infection, anorexia, malabsorption & other co morbidities

Appropriately reassess & refer on multidisciplinary working including reassessment of exercises & progression where appropriate

Help the patient develop approaches to lifestyle and health management. Work together with the patient not only to adopt the principles of healthy living, but specify strategies and actual behaviours that will optimise the health of each individual

Arrange services and support with other health care providers. Exchanging information &negotiate services and support with other health care providers in order to facilitate continuity of care for patients.

Benefits of a competency framework approach

For patients

Access timely assessment of holistic needs and person centred support

Receive support from competent staff regardless of type of post

For workforce

Facilitates personal and team development

Frees up capacity of senior staff to manage complex care and act in consultant role

For system

Supports efficient & flexible workforce

Potential to improve retention

For Macmillan

Clarity about level & type of skills needed for investment & influencing

Potential to develop volunteers in appropriate competencies

Provides focus for learning & development

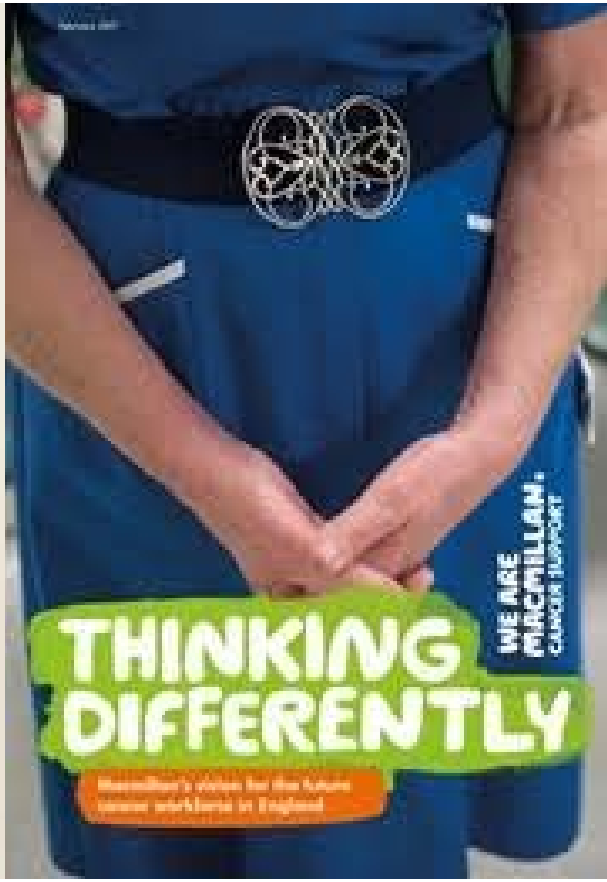
Key influencing reports

1. Frontline – Workforce pressures in the national health service, Sept 2017

   https://www.macmillan.org.uk/_images/Macmillan-WorkplaceSurvey-ReportMAC16756_tcm9-316125.pdf

2. Thinking Differently: Macmillan's vision for the future cancer workforce in England, February 2017

   https://www.macmillan.org.uk/documents/policy/thinking-differently.pdf



Our purpose

TO HELP EVERYONE WITH CANCER LIVE LIFE AS FULLY AS THEY CAN

Our benefit

YOUR BEST WAY THROUGH

Thank you – Any Questions?

Dr. Fran Woodard

Executive Director of Policy & Impact

Macmillan Cancer Support

Fwoodard@macmillan.org.uk

@franwoodard

CANCER WORKFORCE: STRATEGIES TO PROVIDE INTEGRATED, PEOPLE-CENTRED CANCER CARE

Strategies to Build Health Workforce Capacity: St Jude Experience in Childhood Cancer

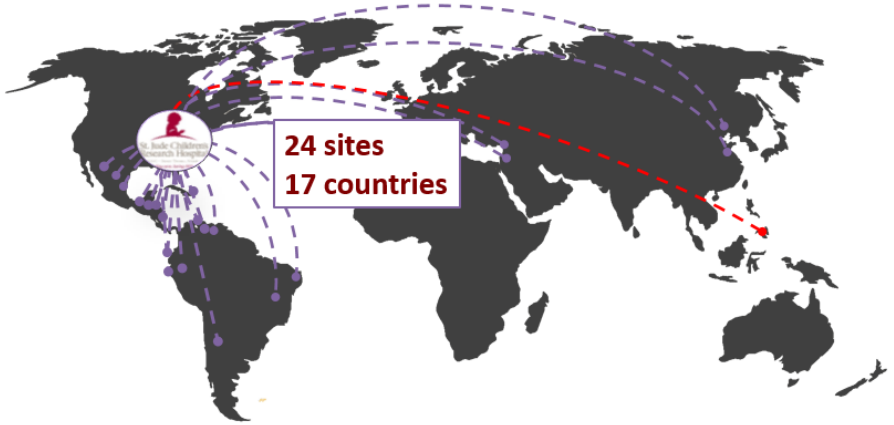
Catherine Lam, MD, MPH, FRCPC, FAAP
Director, Health Systems Unit
Director, Asia Pacific Regional Program
Associate Professor, Faculty Pediatric Oncologist
Departments of Global Pediatric Medicine and Oncology

St. Jude Children's Research Hospital
ALSAC • Danny Thomas, Founder
Finding cures. Saving children.

World Cancer Congress
Kuala Lumpur, Malaysia
1—4 Oct 2018
Strengthen
Inspire
Deliver
uicc global cancer control WORLD CANCER CONGRESS

Vision of St. Jude Global

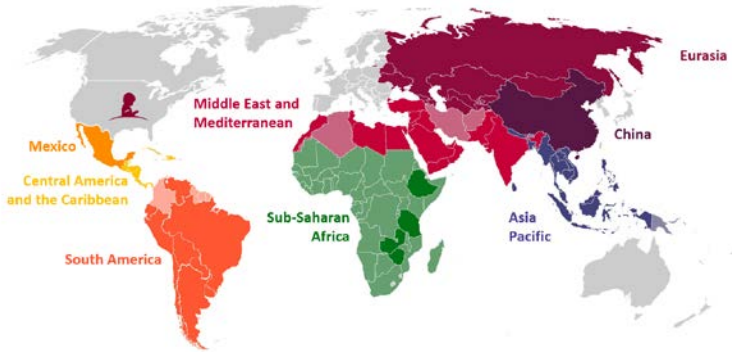
For 25 years, we have worked with collaborators around the world to improve care delivery



International Outreach Program

Department of Global Pediatric Medicine

St. Jude Global Alliance



Carlos Rodriguez-Galindo, MD
Executive Vice President
Chair
Department of Global Pediatric Medicine

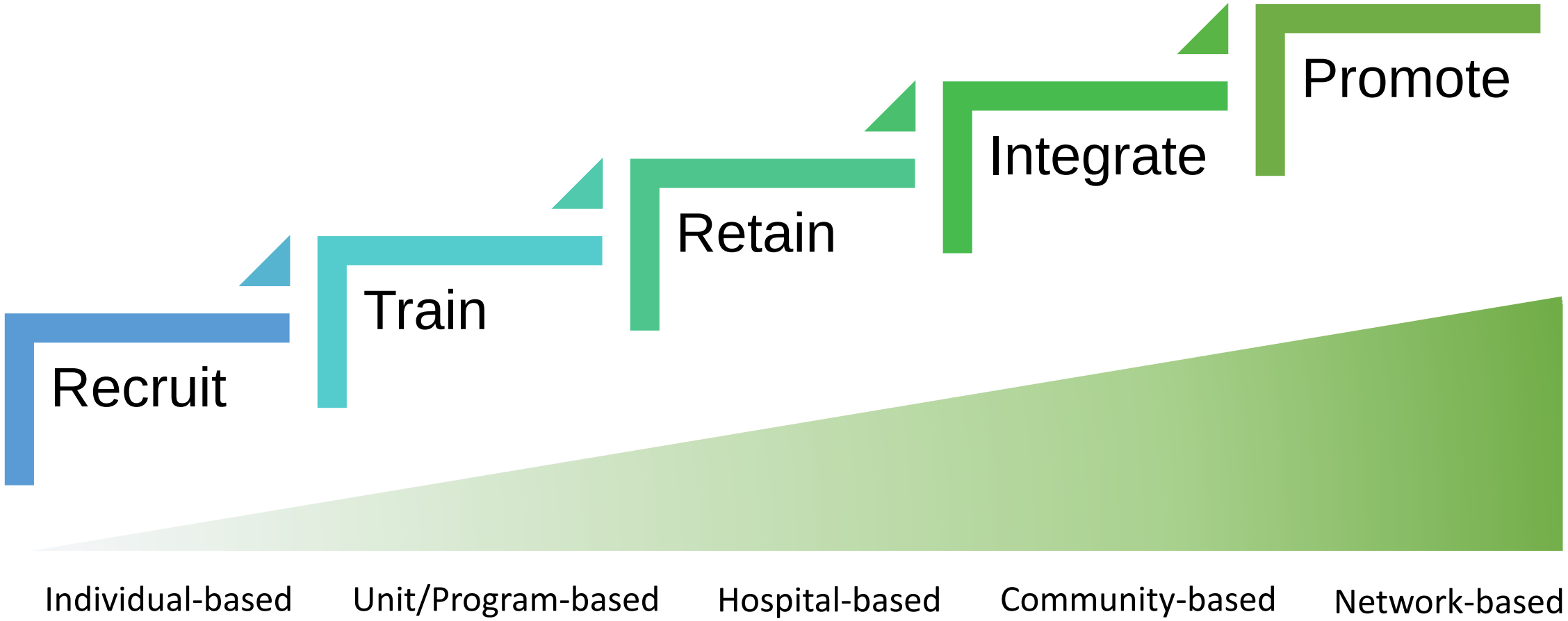
Education

Program Building

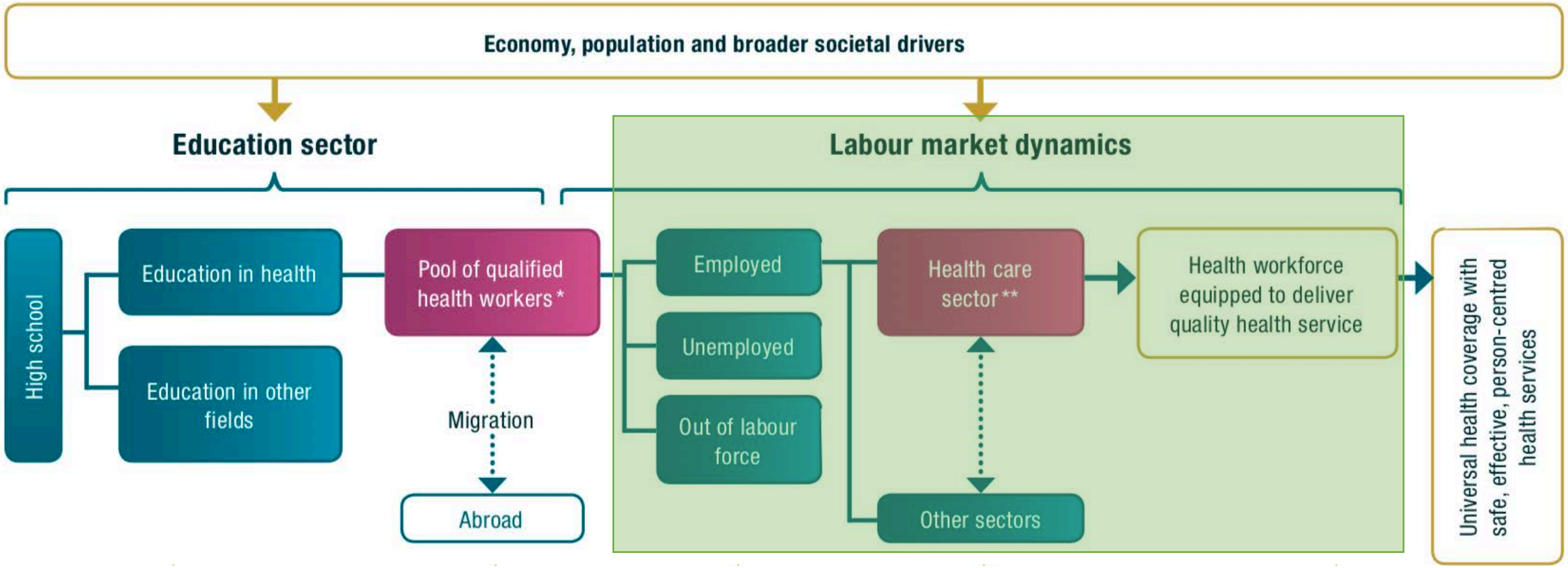
Research

That every child diagnosed with cancer or a blood disorder will have access to quality care
no matter where they live

Equipping & Sustaining the Workforce



Workforce: Levers of Change



Fostering role recognition
Nature and quality of work environment

Adapted from WHO 2016 Global Strategy on HRH: Workforce 2030

Philippines Program

Individual- to Unit- to Hospital- to Community- to Network-based Strengthening

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Training, Organizational & Funding Support

50+ multidisciplinary team members	New disciplines, career tracks, and team roles

Increased Local Role Recognition and Financing

Increased visibility and recognition of specialized competencies and distinct roles	Increased sustainable local financing support for workforce & work environment

Enhanced Workforce Engagement and Regional Roles, with Maturation of Program Portfolios

Boosted morale: engagement of leadership, specialty, primary care and community-based workforce	Linkages across training programs and regional network

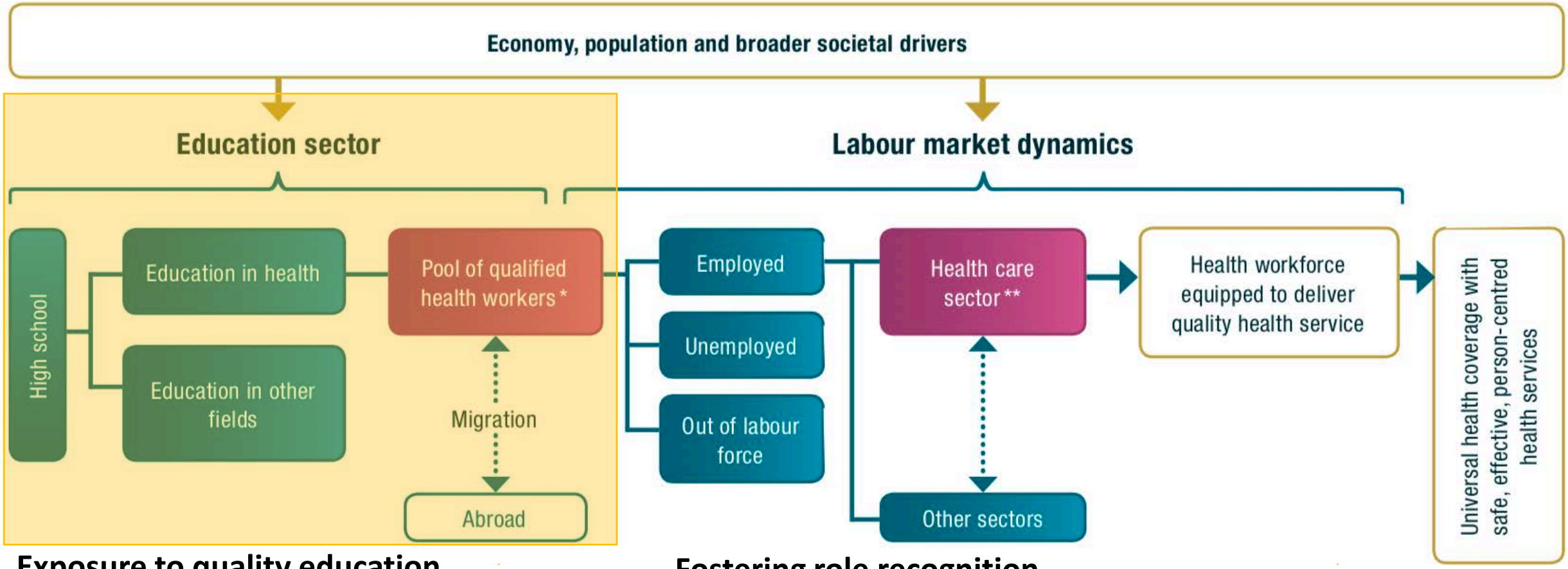
Philippines Childhood Cancer Workforce SWOT

Within National Health System Context

Philippines National Childhood Cancer Control Workshop
August 4th – 5th, 2017

Health System Block	Strengths	Weaknesses	Opportunities	Threats
Health Workforce	• Committed, motivated and trainable workers	• Lack of Specialists • Lack of training programs • High turnover • Limited permanent government salaried plantilla positions	• Ped Onc Fellowship Program • Nursing positions	• Change in Political priorities • Attractive overseas opportunities for providers and nurses

Workforce: Levers of Change



Exposure to quality education
Engaging & equipping teaching staff & students

Fostering role recognition
Nature and quality of work environment

Adapted from WHO 2016 Global Strategy on HRH: Workforce 2030

Asia Pacific Program

Local Systems-based Workforce Strengthening

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Sample assessments of education sector	Strategies to increase pool of qualified health workers
• Assessing **cancer awareness and literacy** in lay public, undergraduate medical and allied health programs	• **Exposure** to childhood cancer in undergraduate medical and nursing and primary care / general pediatric programs (lectures, rotations, research electives)
• Assessing **availability and nature of training** (e.g. pathology, radiation oncology, social work, child life)	• **Governance for international partnerships and support (operational/financial)** for training
• Assessing **educational program design, curriculum content, delivery, and evaluation (EPAT tool)**	• **Nationally-approved training program with structured curriculum** (e.g. for pediatric hem/oncology fellowship)
• Assessing educational and work **culture, workforce and skills mix (PrOFILE tool)**	• **Facilitate multidisciplinary learning & continuing education culture – online & on-site** (e.g. Myanmar network > 4-fold growth)
• Assessing **policy and fiscal environment** for sustainable workforce **(C5 tool)**	• **Local governance** supporting **funded non-rotating positions and career path** for qualified trainees

Central America Pediatric Oncology Fellowship Training Program

St. Jude Children's Research Hospital
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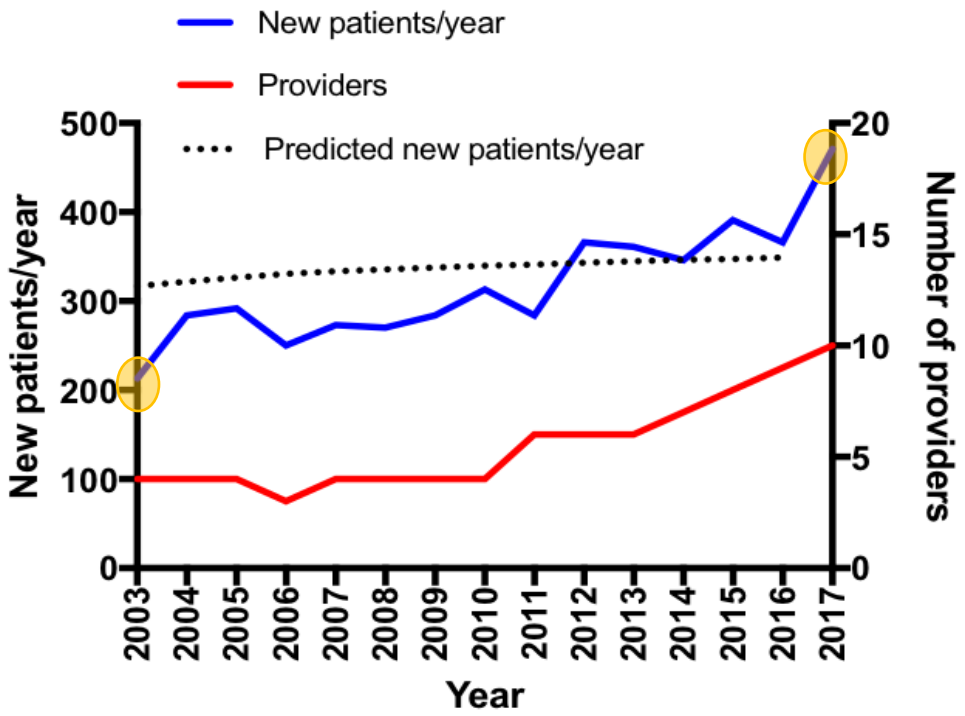
Guatemala (UNOP)

- Local fellowship program opened to regional trainees
- 2003 – 2018: 23 graduates
  - < 5% attrition rate
  - Selected with planned position at home institution
- >90% of pediatric oncologists in the region are graduates
  - ~50% in leadership positions
  - >60% academically active in research
- > 50% increase in number of patients seen
- First pediatric hematology-oncology fellowship training program to seek international accreditation by ACGME-I (in progress)



St. Jude Global Education

Open access distance learning

Content

- Educational **seminars**
- Online classroom **courses** (self-paced and instructor-led)
- Web-based **collaboration tools**
- Oncopedia
  - Cases, images, and chapters
  - **Moderated discussions**
- **Live online meetings**

www.cure4kids.org

- > 1,600 online seminars
- 37 self-paced courses
- 36 instructor-led courses
- Multi-lingual, multidisciplinary content
- **Users in the last year**
  - **7,190 active users**
  - **150 countries**
  - 45,585 content views
  - 2,274 meetings (2,107 participants)

Regional & Global Online Multidisciplinary Live Interactive Meetings www.cure4kids.org

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Global Neuroblastoma NETWORK

Questions to be Discussed

- Given limitations in diagnostic tests (urine VMA and NSE), can NBL diagnosis be made on clinical presentation and morphology as in this case ?
- What is the rate of febrile neutropenia complications in the intermediate risk regimen, A3961 ? We prescribe GCSF routinely, but is expensive. Does prophylactic antibiotics (Cefixime) lessen the episodes of febrile neutropenia ? (Our patients are malnourished with poor oral hygiene, and live in overcrowded places)

Chat (Everyone)

Patricia Alcasabas, Philippines 3: We have free chemo now from the government for all solid tumors but GCSF is not available.

Nehal Parikh, US: When will you re-assess?

Patricia Alcasabas, Philippines 3: IMy connection is so poor and cannot hear the discussions well and on real time :)

Patricia Alcasabas, Philippines 3: Thanks! Our half way house will open this feb

stephen shochat, US 2: I think it would be resectable without too much difficulty. May develop Horner's syndrome post-op.

Patricia Alcasabas, Philippin...

Hosts (6)
- Cath Lam, US
- Katherine Matthay, US
- Marcia Chia, US
- Nehal Parikh, US
- Patricia Alcasabas, P...
- Scott Howard, US

Presenters (3)
- Raya Saab, Lebanon
- Tin Arombo, Philippi...
- maryam tourabi, Morocco

Participants (15)
- Patricia Streitenber...
- Adriana Bello, Venezuela 2
- Alia Zaidi, US 2
- Enrica Tan, Singapore 2
- Francis Ruiz, Venezuela
- Israt Anny, Bangladesh
- Jillian Teo, Singapore
- John Wiernikowski, ...
- Laura Rodriguez, Mexico
- Mauricio Mesa, Colombia
- Pascale Yola Gassant, Haiti
- Rajat Sharma, India 3
- khalil ghandour, Jordan
- stephen shochat, US 2
- Aye Khaing, Myanmar (Bu...

Asia Pacific Regional Program

St. Jude Children's Research Hospital
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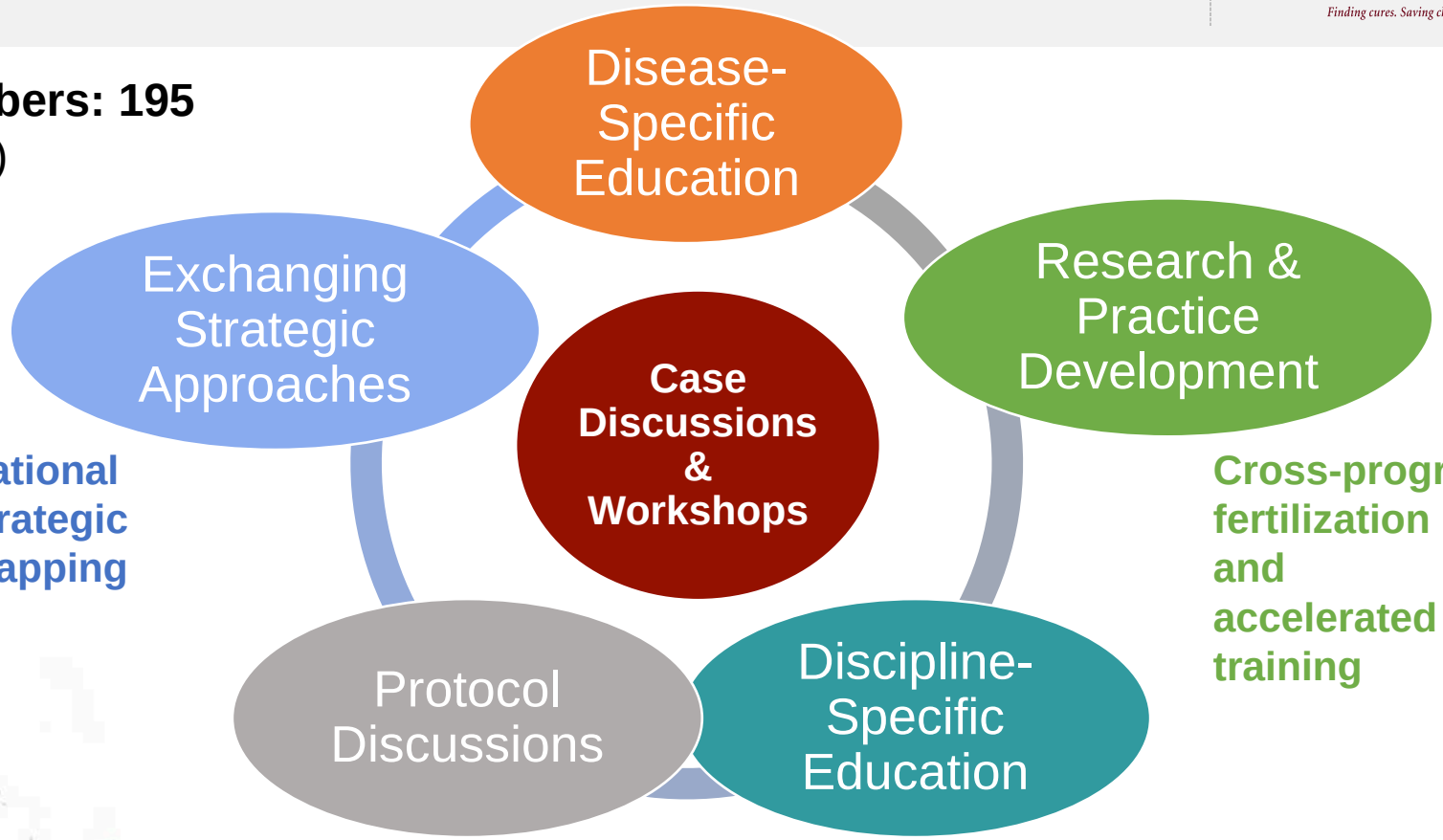
Asia Pacific Tumor Board Members: 195

Institutions: 53+ (49 in Asia)

Countries: 20

(as of June 2018)

Countries in e-community



National strategic mapping

Cross-program fertilization and accelerated training

St. Jude VIVA Preforum Workshops and Pre-Workshop Symposia

Retinoblastoma 2017

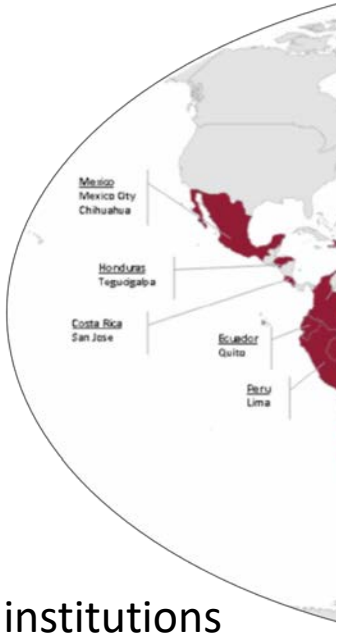
Pathology 2018

Regional Retinoblastoma Protocol Project

More than 100 Providers trained across more than 18 Countries

St. Jude Global Academy

Training Seminars – Class of 2018



20 institutions
17 countries
5 regions

2018 St Jude Global Academy – Infectious Disease Training

	Distance								Residential	
Week	1	2	3	4	5	6	7	8	9	10
Modules	Pre-test; M1: Infections in Pediatric Cancer; Post-test		Pre-test; M2: Quality in Infection Care; Post-test		Pre-test; M3: Quality in Infection Prevention; Post-test		Pre-test; M4: Sustainability, Research & Dissemination; Post-test		St Jude Graduate School	
Enhancers	SE	M1-R	SE	M2-R	SE	M3-R	SE	M4-R		

www.cure4kids.org

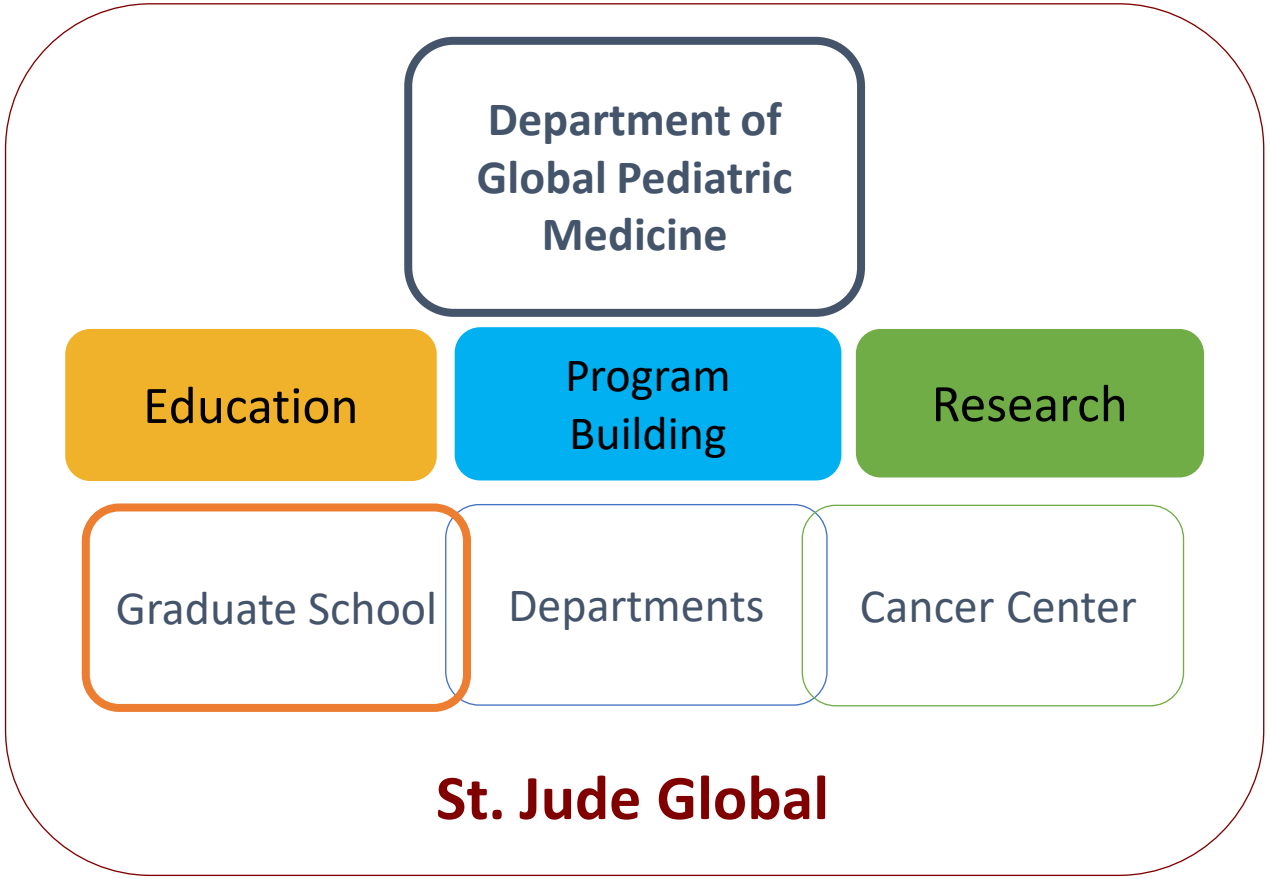
Project of Interest → Presentation*

Day	1	2	3	4	5	6	7	8	9	10	11	12
Themes	Education	Infection Care I Diagnostics	Infection Care II Treatment	Prevention I: Risk of Infection	Prevention II: Interventions	Research Project Workshop	Research Essentials	Grants and Publications	Healthcare Organization	St Jude PIDS: • Transplant Symposium, • Research Conference, • Poster Sessions, • Global Infectious Disease Session		
	Leadership Forum								Graduation			

Abbreviations: M=Module; SE=Subject Expert; R=Review

St. Jude Global Education

Masters of Science in Global Child Health



MSc in Global Child Health

- Two-year program with 10-15 students/year
  - US and international students
- Blended model: On Campus + Distance
  - Health systems innovation
  - Clinical research
  - Population science
- 2-year capstone funded projects to advance care and research within a region

- First class Summer 2019

Challenge: Policy Gap
St. Jude National Cancer Control Plans (NCCP) Analytic Program (2014-Present; PI: Catherine Lam)

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880+ Files Identified & Screened for Inclusion

- 396 ICCP
- 96 WHO NCD Repository
- 333 WHO National Health Planning Database
- 58+ Other sources

↓

462 Files Included for Review - NCCP Core Bank

↓

263 Files Included for Full Coding

131 Cancer, 96 NCD, 36 Health

Median 51 pages (1-426)

↓

Representation:

- 165 distinct sites (157 countries)
- 6 WHO Regions
- All income settings
- 7 languages analyzed (5 with coding sets)

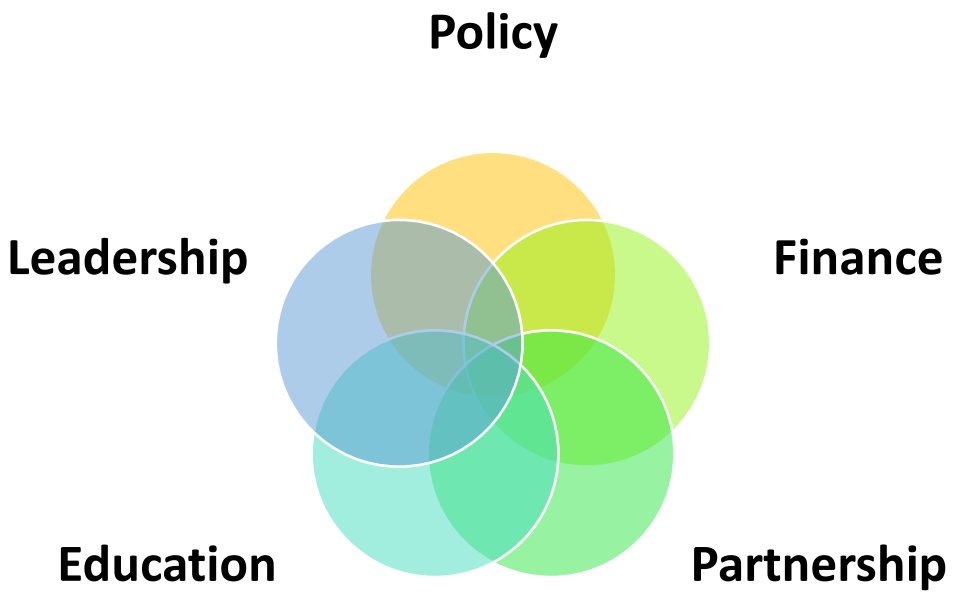
Fewer than 30% of national policies mention workforce needs for children with cancer (in development)

Missed opportunities to connect sectors (e.g. traditional health, benign hematology, palliative care) (BJC 2015, PBC 2017)

- Pediatric Oncology Included
- No Pediatric Oncology Included
- Plan status not available

Challenge: Policy Gap
St. Jude National Cancer Control Plans (NCCP) Analytic Program (2014-Present; PI: Catherine Lam)

- Of the 6 elements of the Global Health Workforce Alliance (WHO/USAID) Human Resources for Health (HRH) Framework:
  - **Education** was the most commonly included element within national plans inclusive of workforce needs
  - **Financing** was the least commonly included element



Moreira D, Ritter JE, Lam CG, in development

Workforce: Levers of Change

Universal health coverage with safe, effective, person-centered health services

Exposure to quality education
Engaging & equipping teaching staff & students

Fostering role recognition
Nature and quality of work environment

Adapted from WHO 2016 Global Strategy on HRH: Workforce 2030

Special Thanks

St. Jude Children's Research Hospital
ALSAC • Danny Thomas, Founder
Finding cures. Saving children.

Dr. Tricia Alcasabas

Dr. Federico Antillon

Dr. Miguela Caniza

Dr. Mae Dolendo

Dr. Aye Aye Khaing

Dr. Monika Metzger

Dr. Daniel Moreira

Dr. Shaloo Puri

Dr. Ibrahim Qaddoumi

Ms. Julie Ritter

Dr. Carlos Rodriguez-Galindo

Thank you 고맙습니다 cảm ơn bạn ຂອບໃຈ salamat សូមអរគុណ рахмат сага ඹබට ස්තූතියි rahmat wazviita баярлалаа

clam@stjude.org

Model and framework to formulate policies

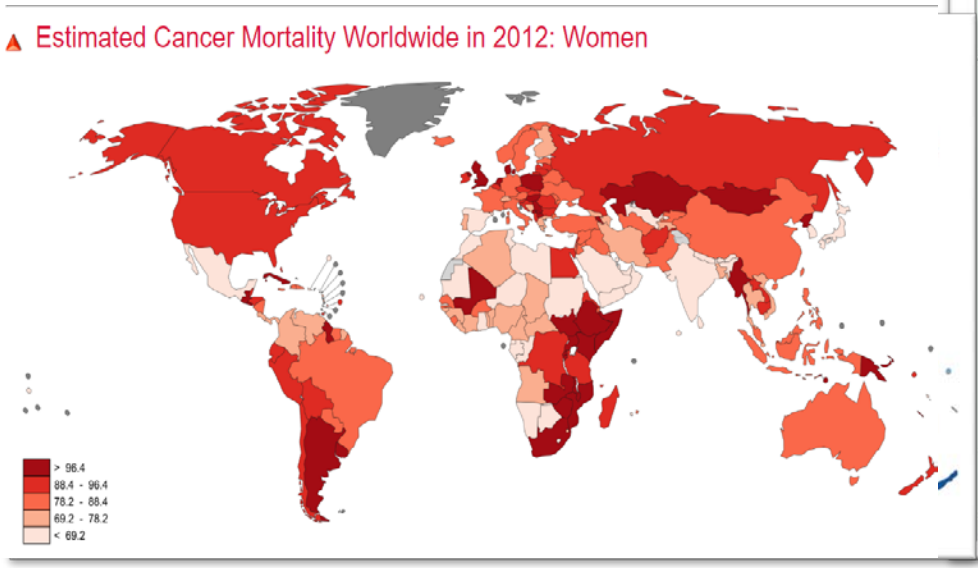
Putting it all together

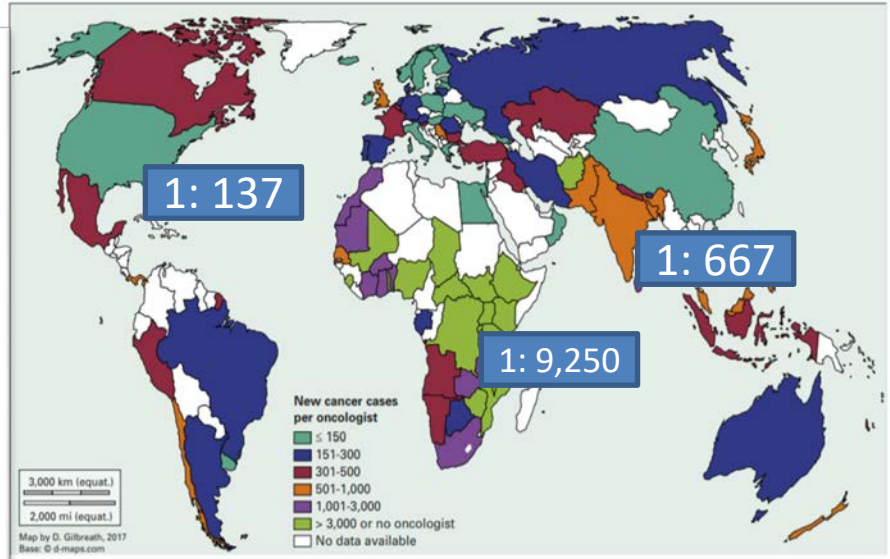
André Ilbawi, MD
Medical Officer, Cancer Control
World Health Organization
ilbawia@who.int

Conflicts of Interest: None

Special thanks to Dr Dario Trapani, WHO Consultant

Framing the Dialogue





Cancer Burden

Cancer Workforce
(medical/clinical oncologist)

Differences in Cancer Outcomes Correlate with Workforce Density

Mathew, JGO 2018

Framing the Dialogue

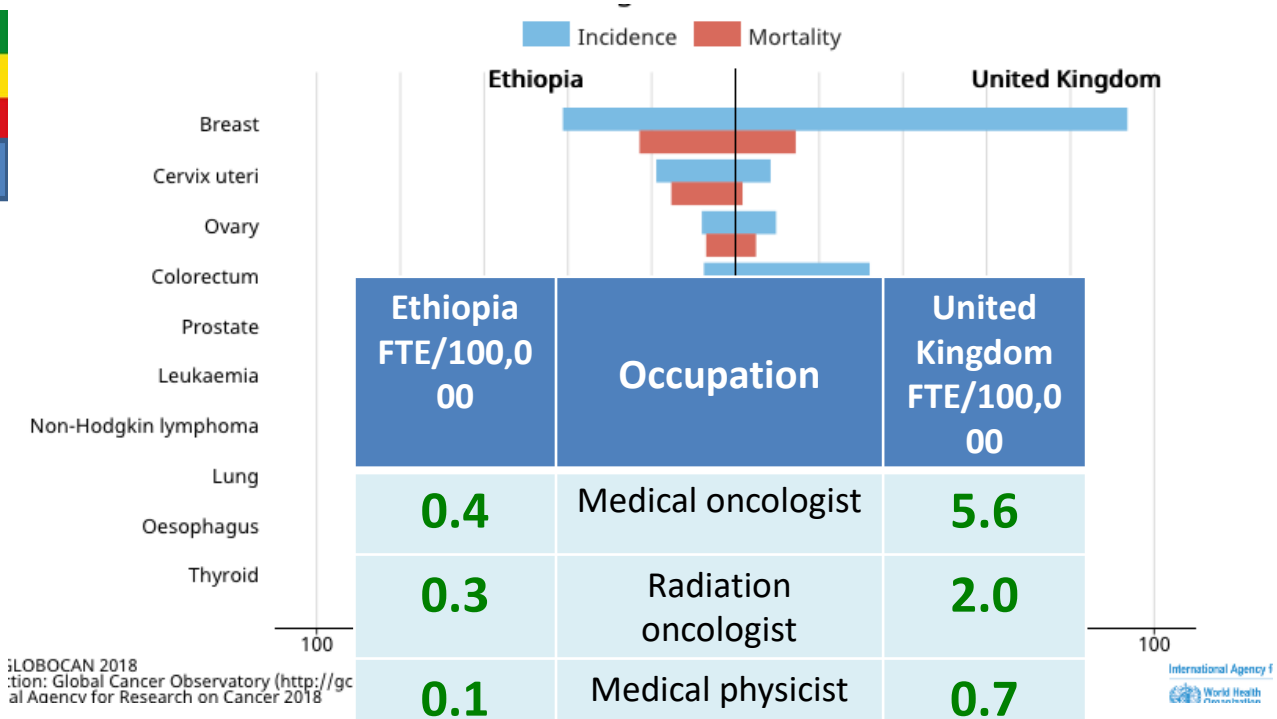
How many providers needed? ? per 100 patients

How to build capacity when gaps are significant?

How to organize and distribute? ? Centralize vs rural access

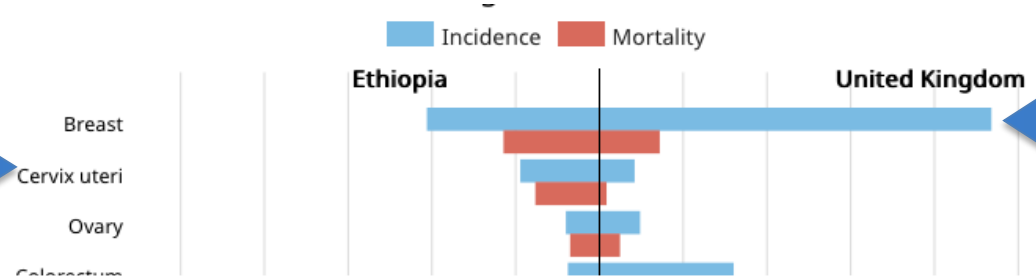
1. Setting global agenda through **Global Strategy** for HRH 2030
2. Developing **policy dialogue** for cancer health workforce
   - Estimating unmet need through novel tool
   - Providing evidence-based strategies for capacity building
     1. ↑ # of providers through training positions
     2. ↓ attrition rates
     3. Improve efficiency through service prioritization
     4. ↑ intervention efficiencies (e.g. telepathology)
     5. Optimize workforce through organizational structure

Comparison Between Two Countries



Ethiopia FTE/100,000	Occupation	United Kingdom FTE/100,000
0.4	Medical oncologist	5.6
0.3	Radiation oncologist	2.0
0.1	Medical physicist	0.7
0.1	Surgical oncologist	1.3
3	Paediatric oncologist	33

Comparison Between Two Countries



on-Hodgki

GLOBOCAN 2018
:tion: Global Canc
al Agency for Res

Ethiopia FTE/100 pts	Ethiopia FTE/100,000	Occupation	United Kingdom FTE/100,000	United Kingdom FTE/100 pts
0.6	0.4	Medical oncologist	5.6	0.85
0.4	0.3	Radiation oncologist	2.0	0.3
0.2	0.1	Medical physicist	0.7	0.1
0.2	0.1	Surgical oncologist	1.3	0.2
5	3	Paediatric oncologist	33	5

Prioritization & Costing Tool

Situational analysis

Assessment of country by a preliminary assessment, providing information on health workforce

Select services based on priorities, health system capacity

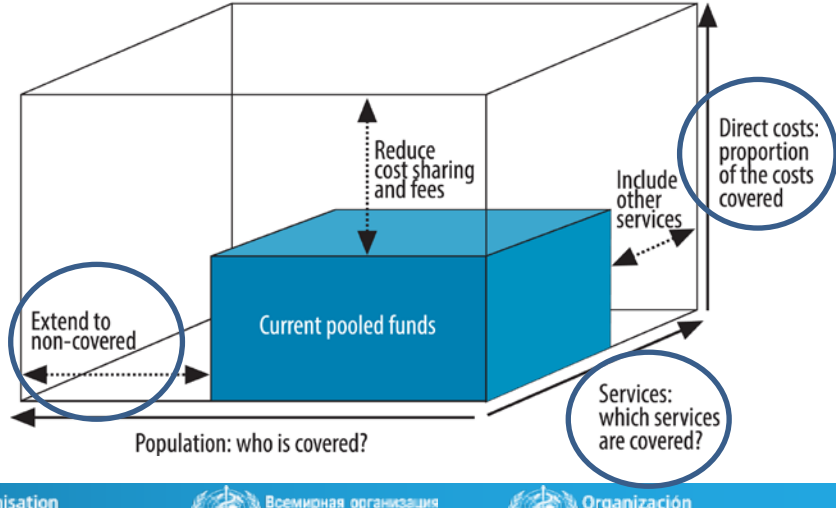
Estimate the **unmet need** requirements & inefficiencies at national-level

Policy formulation & Technical support

Analyse gaps for in-country dialogue to inform policy decisions about **prioritization** for cancer workforce

Goal

to improve access to trained providers & cancer services



Cancer Workforce Questionnaire

Cancer care service availability.

Which of the following cancer care services are available in your country (including private and public sector)?

Check any that apply

- [ ] *Check all*

- [x] Radiology
- [x] Pathology
- [ ] Nuclear medicine
- [x] Surgery
- [ ] Genetic testing
- [x] Systemic therapy
- [ ] Paediatric oncology
- [x] Radiation oncology
- [ ] Radiation safety
- [ ] Palliative care
- [ ] Oncology social work

Cancer Workforce Questionnaire

Cancer care occupations.

Which of the following cancer care occupations exist in your country (including private and public sector)?

Check any that apply

- [ ] *Check all*

- [ ] Radiographer / medical imaging technician
- [ ] Radiologist
- [ ] Anatomic pathologist
- [ ] Surgical oncologist
- [ ] Radiation oncologist
- [ ] Breast surgeon
- [ ] Medical oncologist
- [ ] Oncology pharmacist
- [ ] Biomedical laboratory scientist
- [ ] Oncology nurse
- [ ] Medical physicist
- [ ] Clinical officer / non-physician in surgery
- [ ] Gynaecologic oncologist
- [ ] Plastic surgeon

Cancer Workforce Questionnaire

301vi. to perform tissue handling/ transportation, tissue assessment, sectioning and staining, analysis of tissue sections?

- ☐ Pathologist
- ☐ Pathology technician

301vii. to perf
cer?

- ☐ Other health professional (specify____)
- ☐ Service not available

Interventions

→ Estimate unmet need
→ Inefficiencies between facilities
→ Scope of practice

Framing the Dialogue

How many providers needed? ? per 100 patients

How to build capacity when gaps are significant?

How to organize and distribute? ? Centralize vs rural access

1. Setting global agenda through **Global Strategy** for HRH 2030
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   - Estimating unmet need through novel tool
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     1. ↑ # of providers through training positions
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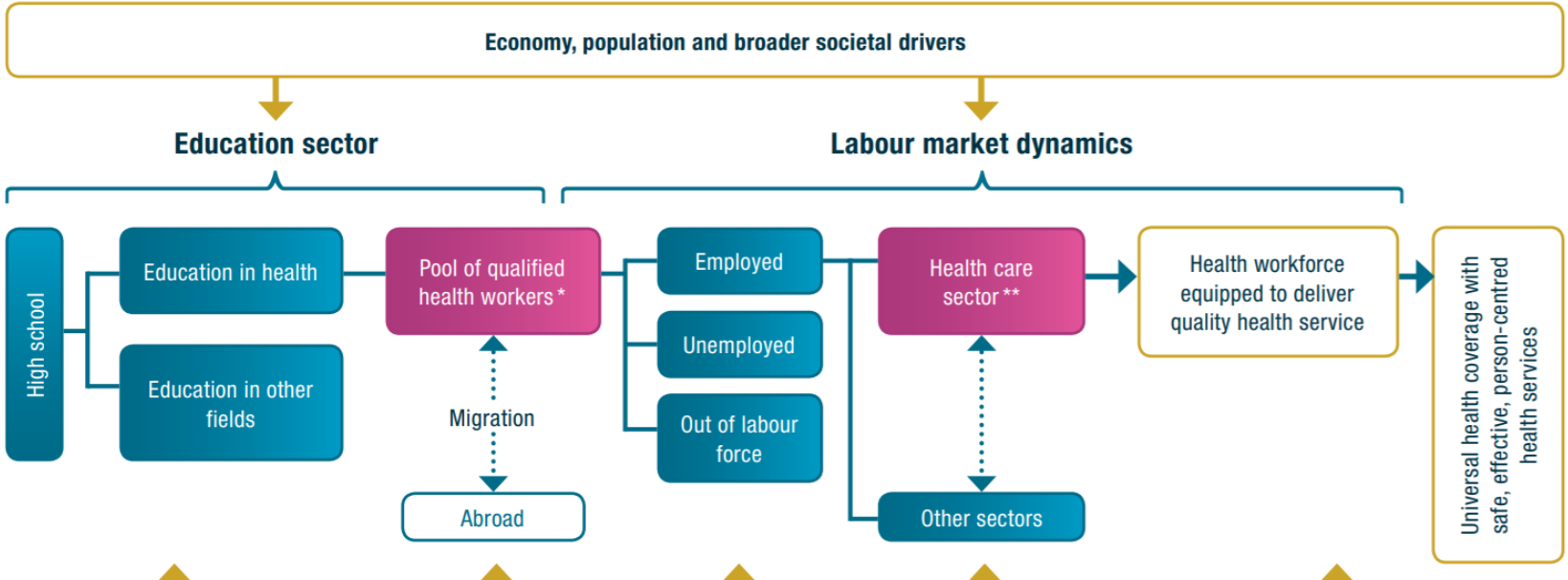
     3. Improve efficiency through service prioritization
     4. ↑ intervention efficiencies (e.g. telepathology)
     5. Optimize workforce through organizational structure

Policy Levels to Shape Health Labour Markets



Policies on production
- on infrastructure and material
- on enrolment
- on selecting students
- on teaching staff

Policies to address inflows and outflows
- to address migration and emigration
- to attract unemployed health workers
- to bring health workers back into the health care sector

Policies to address maldistribution and inefficiencies
- to improve productivity and performance
- to improve skill mix composition
- to retain health workers in underserved areas

Scenarios Informed by Systematic Review

1. Incr # graduate oncology professionals

Cervical Cancer Prevention Training in Tanzania

Global health Service Partnership

4. Increase in intervention efficiency

Telepathology

Time-saving (1/3 time for telecytology)

2. Re

Financial ince

Retention pa

i.e. school & allowance (Zambia)

Training opportunities (Thailand, South Africa)

Nurses prescribing oral morphine (Rwanda)

3. Change in the number of cancer cases

New breast cancer screening in country

Estimations of cancer workforce for breast cancer screening

6. Combo incr efficiency & optimization

Evidence-based policies do exist…
but, few for cancer in LMIC

>6,000 abstracts reviewed

1. Increase in number of professionals

Attract, Recruit, and Retain a Prepared and Diverse Workforce

to expand the capacity of the workforce

faculty to medical and nursing schools in under-resourced settings

SEED GLOBAL HEALTH

Global Health Service Partnership

production of nurses and physicians who are skilled and practice ready when they graduate

Public-private partnership

Cervical Cancer Prevention Training in Tanzania

refresher training in VIA and cryotherapy for local trained providers and key district and university leadership

Helping the achieve met of Tanzania's goal to address cervical cancer elimination

Irabor CO, JGO 2017

2. Reduce voluntary attrition rate

Voluntary annual attrition rate 1-17%

69% have intentions to leave their current health facility*

*Ghana

HIC: 2%

MIC: 10%

LIC: 15%

- Low salaries
- Lack of CME, prof develop
- Lack of effective supervision
- Weak regulatory environments
- Isolation (rural ares)
- Poor working conditions
- Stress or large caseloads
- Lack of motivation/low job satisfaction

NCHHSTP workforce strategy for development and capacity building

Initiatives	Outcomes
New Employee Orientation (NEO)	96% participants indicated that leaders encouraged new employee engagement in achieving the Center's goals and objectives
Ambassador Program	87% agreed that NCHHSTP should provide the Ambassador Program to new employees in the future
Branch Chiefs Opportunities for Leadership Development (BOLD)[a]	93% attendees agreed that existing leadership skills had been enhanced by attending the session
Coaching and Leadership Initiative (CaLI, Cohort I-II)[a]	97% indicated changes in the Leading Change competencies; 80% indicated changes in the Leading People competencies

Financial incentives and rural allowance for working in remote areas (Indonesia)

Training opportunities (Thailand, South Africa)

Retention package (e.g. allowance for providers and family) (Zambia)

1. The use of incentives and compulsory services
2. Improving working conditions
3. Improving living conditions

Lehmann U, BMC Health Serv Res 2008 Bonenberger, Human Resources for Health2014Casto Lopes S, Human Resources for Health 2013 Dean HD, J am pere 2014

3. Prioritizes high-impact cancer services (e.g. **BC screening**)

Digital mammoRx

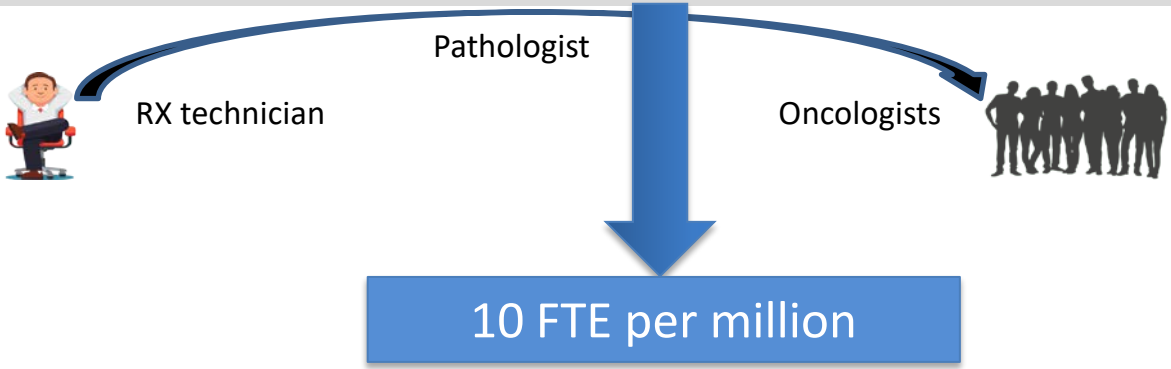
Country	Population	Radiologists
Algeria	35, 101, 720	788
Benin	8, 532, 547	12
Burkina faso	14,902,785	26
Djibouty	900,000	1
Egypt	81, 713, 517	1250
Ethiopia	80.000, 000	100
Kenya	36,000,000	105
Libya	6,173,579	30
Mauritania	3,364,940	11
Morocco	34,343,219	450
Nigeria	130,000,000	300
Rwanda	10,473,282	7
Sudan	40,218,455	200
Sychelles	85,000	3
Tanzania	41,048,532	30
Tunisia	10,383,577	450
Uganda	32,369,558	38
Zambia	11,862,740	2

For the empty spaces, there is no data available

TABLE 3: Projected Numbers of Women 40 Years Old and Older and Radiologists per 100,000 Population by Year

		Year				
Value	Baseline 2003	2005	2010	2015	2020	2025
No. of women ≥ 40 y	68,357,000	70,197,000	75,265,000	79,633,000	83,888,000	88,583,000
No. of radiologists per 100,000 women	21.1	20.6	19.4	18.5	17.9	17.5

2.4 FTE radiologists interpreting mammograms per 10,000 women aged 40 and older



Bleyer A, NEJM 2012

Improving breast imaging quality, Sharyl Nass and John Ball Editors 2005

US Census 2003, ACR

4. Increase in intervention efficiency

Reduction of paperwork and regulations

Improved IT such as electronic medical records

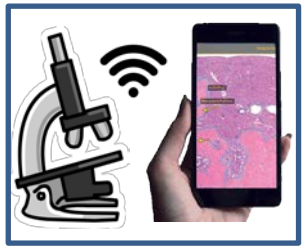
Remote diagnostics

Telepathology

Uneven distribution of pathology resources

Only 1 surgical pathology laboratory is available in Zambia for a population of 12 million people

Feasible in resource-limited settings (i.e. Zambia, Rwanda)



Reliable

Positive and negative predictive values of 95-100%

“Routine use of telepathology compares well with conventional microscopy”

Discrepancy rate 0,3 - 2.4%

Efficient

Greater efficiency in terms of time for diagnosis and turn-around time, especially where a pathologist is not available onsite.

Time-saving (1/3 time for telecytology)

Time for reporting < 24h

Mpunga T, Am J Clin Pathol 2014 Pagni F, Arch Path Lab Med, Evan AJ, Hum Pathol 2009 Bashshur, Telemed J E Health 2017

5. Optimization of existing workforce (**organization**)

Optimize role & organization of providers to realize the full value of workforce

Ensure time efficient (e.g. OR turnover)

Consider supportive supervision or role delegation

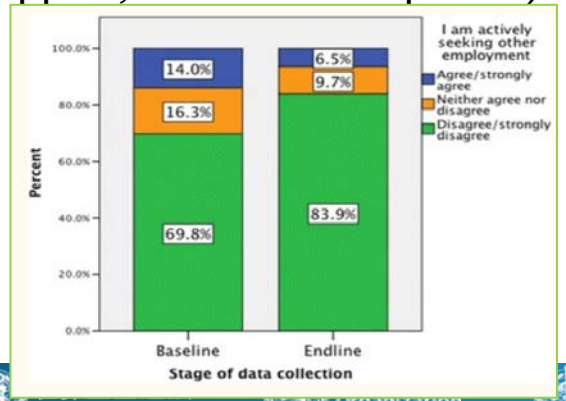
Supportive supervision

- Focus on improving performance and building relationships.
- More like a teacher, coach, mentor.
- Use local data to monitor performance and solve problems.
- Follow up regularly.
- Only support provided.

STEM project (Support, Train and Empower)

- Workshops with managers on human resource
- Intensive training in supervisory
- Action learning sets for staff engaged in supervision

Mozambique



Role delegation

Official Gazette n° 15 0f 09/04/2012

N°03/2012 of 15/02/2012 ***Ibirimo/Summary/Sommaire***

Law governing narcotic drugs, psychotropic substances and precursors in Rwanda.....2

Article 17: People authorised to prescribe narcotic

4° qualified midwife or nurse authorized to exercise the profession and within the

task shifting

*"…Rwanda would become the first low- and middle income country to fulfill an ambition to make **palliative care universally accessible.**"*

Krakaurer EL, j pain sym man Nyrigira, Canadian Journal of Pain Madede T, Hum Resour Health http://www.who.int/immunization/documents/MLM_module4.pdf

Priority Medical Devices: model

Dimensions

Facility

- Capital expenditure
- Frequencies of use
- Purpose (Cancer specific)
- Consumable
- Facility equipment

Cancer type

- 15 tumour types
- Link to competencies
- Care continuum

Level of priority

- 3 levels
- Resource stratify

Patient

- Use per patient
- Performance
- Life span

http://www.who.int/medical_devices/publications/priority_med_dev_cancer_management/en/

Priority Medical Devices: model

Continuum		Competency
Diagnosis	Early diagnosis	Clinical Breast Exam
		Screening

HPV DNA Test, Gynaecological examination/ treatment table, speculum, Visual inspection with acetic acid, Colposcope, Faecal immunochemical testing (FIT) + iFOB immunochemical analyzer, Guaiac faecal occult blood test (gFOBT), stool DNA test, CT colonography, breast X-ray, breast ultrasound, breast MRI, Low-dose chest (CT) scan,

level of proriry I (basic)	level of proriry II (intermediate)	level of proriry III (advanced)
breast: Bimanual palpation of breast and locoregional lymph nodes. **Cervix:** speculum, HPV DNA test, VIA test, pap test, liquid-based citology, colposcopy, **HNSCC:** neck palpation and oral cavity ispection;	**breast:** Mammography; **CRC:** FIT, gFOBT, colonoscopy, CT colonography, **liver:** abdominal US (high risk), liver triphasic CT scan;	**breast:** breast MRI, **CRC:** flexible sigmoidoscopy, DNA stool test, **lung:** Low-dose chest (CT) scan, **gastric:** upper GI endoscopy; **liver:** liver triphasic MRI; **HNSCC:** panendoscopy;

continuum	Competency	capitol expenditure devices	frequencies you use for cancer (VF, very frequently; O, occasionally; R, rarely)	use for multiple(m) or single(s) cancer	one-time cost (ot) or consumable (c)	infrastructure (inf) or cancer specific investment (inv)
Medical Oncology	Manage systemic therapy	Infusion giving set (adult, children)	VF	m	c	inf/ inv
		Infusion pump administration set	VF	m	c	inf/ inv
		Elastomeric pump (i.e.	O	m	c	inf/inv

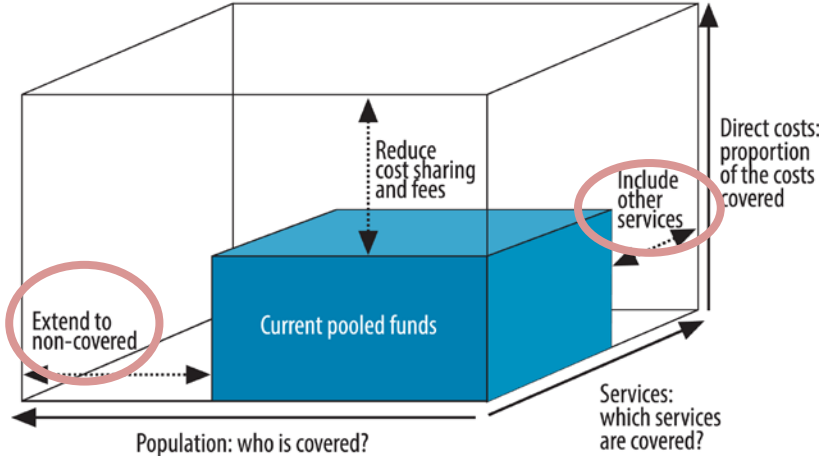
continuum	Competency	capitol expenditure devices	Intervention per patients/ year	Max intervention/year	Average life expectancy/ service life/ lifespan of the device
Radiation Oncology	Plan RT	Computed Tomography (CT) System simulator	1	2088	5 years
		Conventional simulator			
	Administer RT	Linear Accelerator (LINAC)	30	12500	10 years

Framework for Policy Dialogue

Informing NCCP strategies for workforce policies

Step 1: WHO tool for comprehensive situational analysis

- Identifies gaps & inefficiencies in cancer workforce
- Estimates workforce requirements for strategic staffing



Step 2: Policy formulation & technical support

- Identify evidence-based, context-appropriate policies
- Facilitate technical cooperation
- Define health system capacities & workforce competency

Goal: to expand coverage & services

Quality in Workforce Training

Mere availability of health workers is **not** sufficient

People empowerment

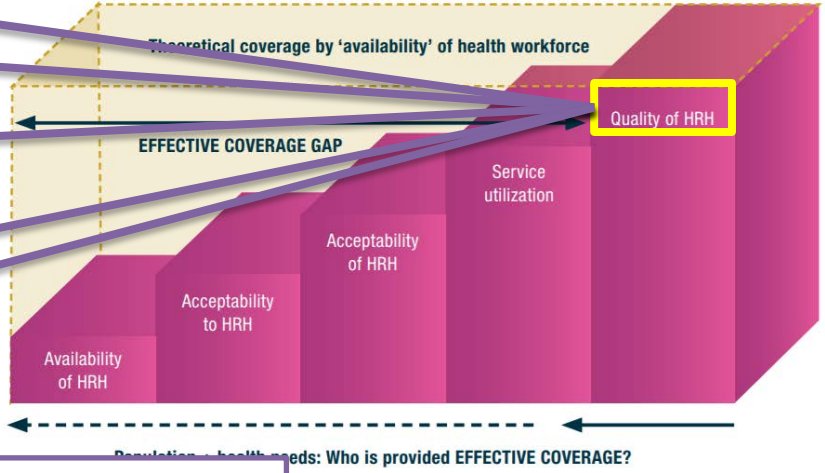
Develop their full capacities

Seize employment and social opportunities

Boosting future innovation and developmer

Expands labour market opportunities
and reduces social inequalities

Figure 1: Human resources for health: availability, accessibility, acceptability, quality and effective coverage



*equitably distributed and **accessible**, competent and motivated, empowered to deliver **quality** care, adequately supported by the health system*

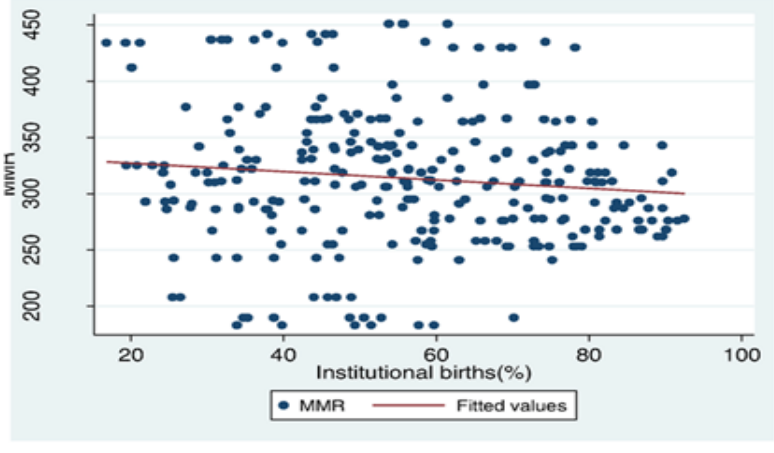
http://www.who.int/hrh/resources/global_strategy_workforce2030_14_print.pdf https://www.oecd.org/g20/summits/toronto/G20-Skills-Strategy.p

Prioritize Quality

"What good does it do to offer free maternal care and have a high proportion of babies delivered in health facilities if the quality of care is sub-standard or even dangerous?"

-Dr Margaret Chan
Immediate Past
Director General, WHO

Figure 3. plot of MMR and proportion institutional births.



Randive B, Diwan V, De Costa A (2013) India's Conditional Cash Transfer Programme (the JSY) to Promote Institutional Birth: Is There an Association between Institutional Birth Proportion and Maternal Mortality?. PLoS ONE 8(6): e67452. doi:10.1371/journal.pone.0067452
http://journals.plos.org/plosone/article?id=info:doi/10.1371/journal.pone.0067452

PLOS | ONE

Prioritize Quality

"What good does it do to
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-Dr M
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Figure 3. plot of MMR and proportion institutional births

"What Gets Measured, Gets Done"

15-25% survival difference = **1-2 mil lives/year**

Why?

- Failure to organize, coordinate service
- Limited workforce expertise
- Out-dated practice guidelines
- Not timely or geographic accessibility

Summary

- Major gaps in health workforce
  - Country-specific approach needed tailored to disease burden, regulatory framework & health system
  - Analysis should be linked to larger workforce and system capacity
- Workforce needs must be linked to national priorities for cancer programmes (e.g. screening, type of treatment)
- Effective short-, medium- and long-term strategies exist and should be implemented
- WHO producing guidance on these strategies and tailoring strategies to particular context/country

THANK YOU

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