

# Towards closing the health human resource gap in radiotherapy

Mary Gospodarowicz MD

Princess Margaret Cancer Centre

19–20 September 2017

IAEA Scientific Forum

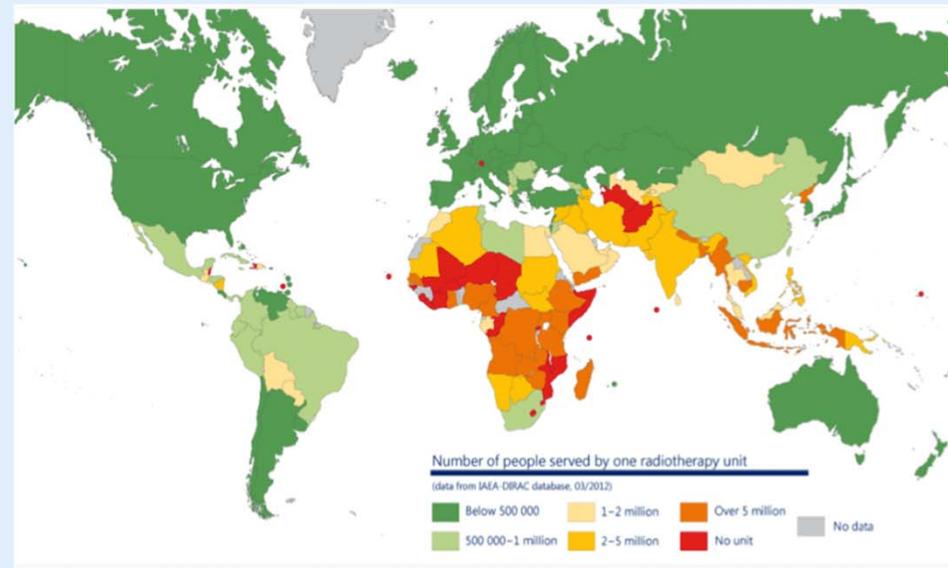
**Nuclear Techniques  
in Human Health**

*Prevention, Diagnosis, Treatment*



# Problem to address

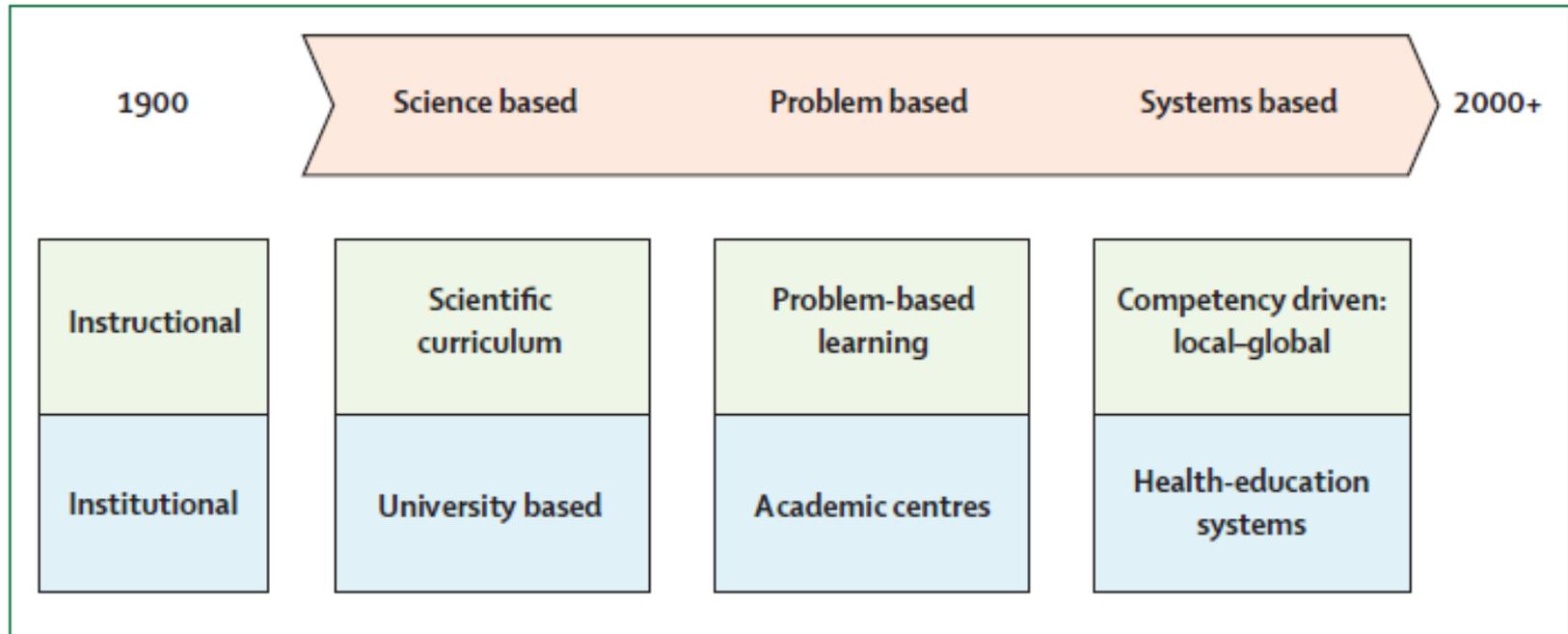
- Number of new cancer cases will increase by 54% by 2030
- Huge gap in the access to radiotherapy globally
- Need for **>200,000** new radiotherapy health professionals by 2035 to meet the demand
- Traditional models of education will not address the issue



Population per radiotherapy treatment unit



# Systems-based competency model for curriculum development



“a slow-burning crisis is emerging in the mismatch of professional competencies to patient and population priorities because of fragmentary, outdated, and static curricula producing ill-equipped graduates from underfinanced institutions”

Frenk, The Lancet, 2010

# Emerging Technologies

- Computerized grading
- Electronic textbooks
- Simulation technology
- Gamification
- Flipped classrooms
- Active learning classrooms
- Massive Open Online Courses - MOOCs
- Collaborative distance learning environments
- Active Learning Forum™ platform
- Learning management systems



# Task Shifting

- Task shifting involves appropriate redistribution of tasks among health workforce teams
  - Promote more efficient use of the available health human resources
- Technology drives task shifting
  - IGRT implementation
  - Regional differences are profound
- Emerging Disciplines

Semin Radiat Oncol. 2007 Oct;17(4):298-305.

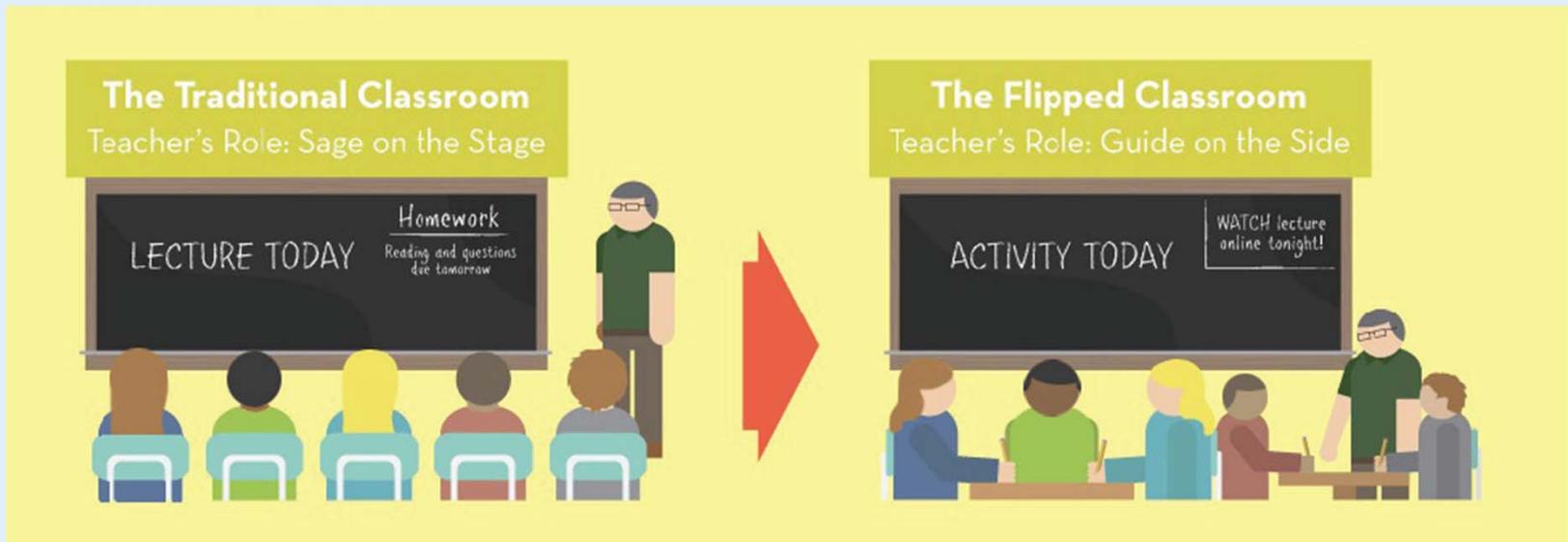
**Radiation medicine practice in the image-guided radiation therapy era: new roles and new opportunities.**

White E<sup>1</sup>, Kane G.

 **Author information**

# Blended Learning & Sustainability

- Blended learning approaches:
  - Maximize learning opportunities & equity
  - Promote decentralization
  - Sharing of educational resources as global public goods
  - Standardization with local customization
  - Promote loco-regional retention
  - Foster team-oriented, collaborative environments



# Emerging Training Priorities

- Healthcare economics
- Health information technology
- Health systems science
- Health policy
- Quality & outcomes
- Innovation
- Change management
- Leadership
- Humanistic Qualities
- Social and Emotional Learning



## Reforms

### Instructional

- Competency-driven
- Local responsiveness with global connectivity
- Inter- & trans-professional education
- IT-empowered
- Educational resources
- New professionalism

### Institutional

- Joint planning
- Academic systems
- Global networks
- Culture of critical inquiry
- Integrated with health systems

## Enabling Actions

- Mobilize leadership
- Enhance investments
- Align accreditation
- Strengthen global learning

## Goal

Transformative  
and  
interdependent  
professional  
education for  
equity in health

High-Level Commission on  
Health Employment  
and Economic Growth



# WORKING FOR HEALTH AND GROWTH

*Investing in the health workforce*



High-Level Commission on  
Health Employment  
and Economic Growth



# FINAL REPORT of the EXPERT GROUP

Richard Horton (Chair), Edson C Araujo, Haroon Bhorat, Saskia Bruysten,  
Claudia Gabriela Jacinto, Barbara McPake, K Srinath Reddy,  
Ritva Reinikka, Jean-Olivier Schmidt, Lina Song, Viroj Tangcharoensathien,  
Sylvia Trent-Adams, David Weakliam, Alicia Ely Yamin

# UN Expert Panel on HHR

## Key Messages

- ▶ **Message 1:** Transforming and expanding the health and public health workforce, including reform of the skills and mix of that workforce, has the potential to accelerate inclusive economic growth and progress towards health equity.
- ▶ **Message 2:** Achieving person- and community-centred universal health coverage by increasing employment, through the equitable distribution of decent jobs for health and non-health workers, will be a crucial foundation for inclusive economic growth and sustainable development.
- ▶ **Message 3:** Reforming aid and accountability for health system strengthening with a focus on skilled health workers can initiate a new era of international cooperation and action for economic and human security.

# Ten Recommendations



## CO-CHAIRS



H.E. Mr François Hollande,  
President of France



H.E. Mr Jacob Zuma,  
President of South Africa



Dr Margaret Chan,  
Director-General of the World Health Organization (WHO)



Mr Guy Ryder,  
Director-General of the International Labour Organization (ILO)



Mr Angel Gurría,  
Secretary-General of the Organisation for Economic Co-operation and Development (OECD)

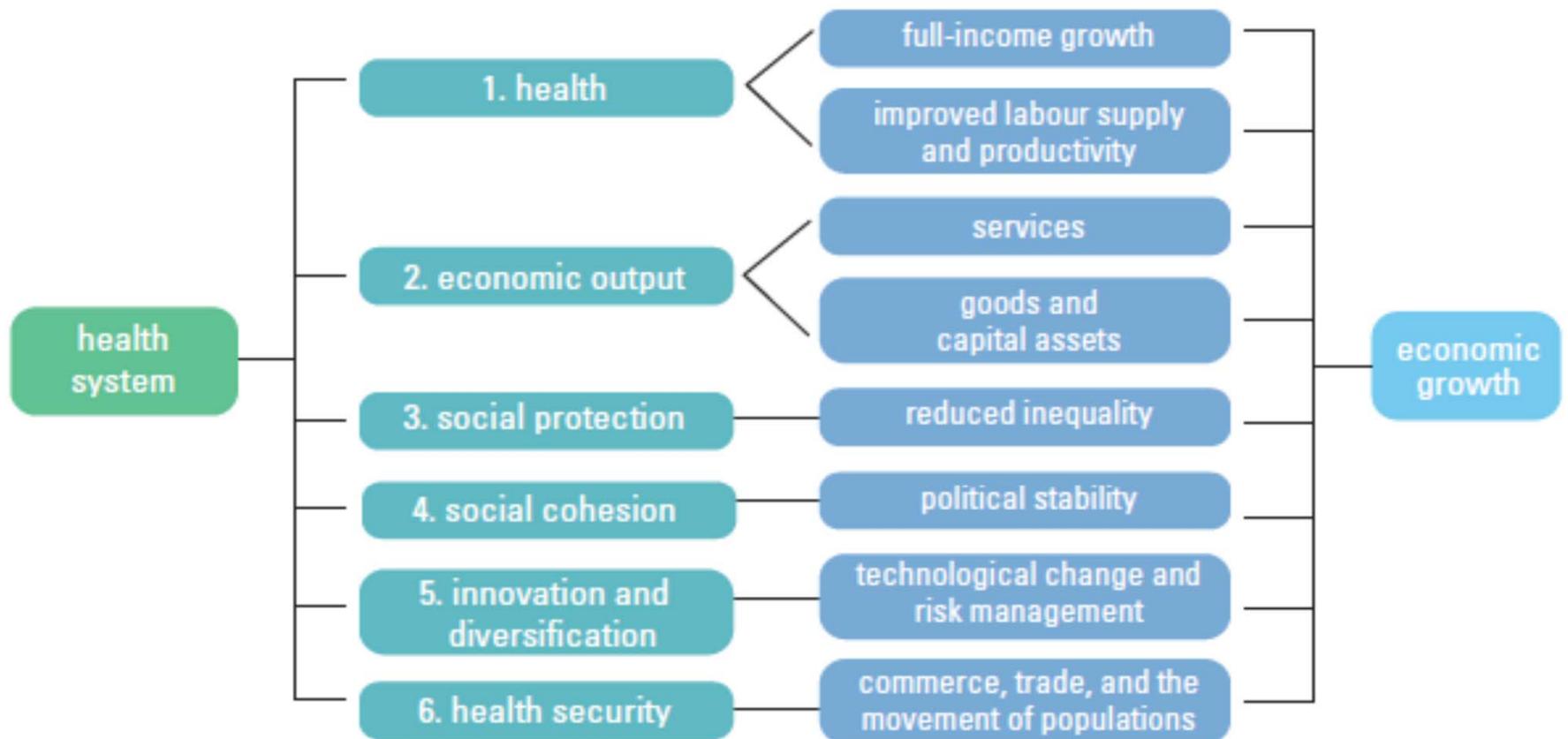
## CO-VICE-CHAIRS

# WORKING FOR HEALTH AND GROWTH

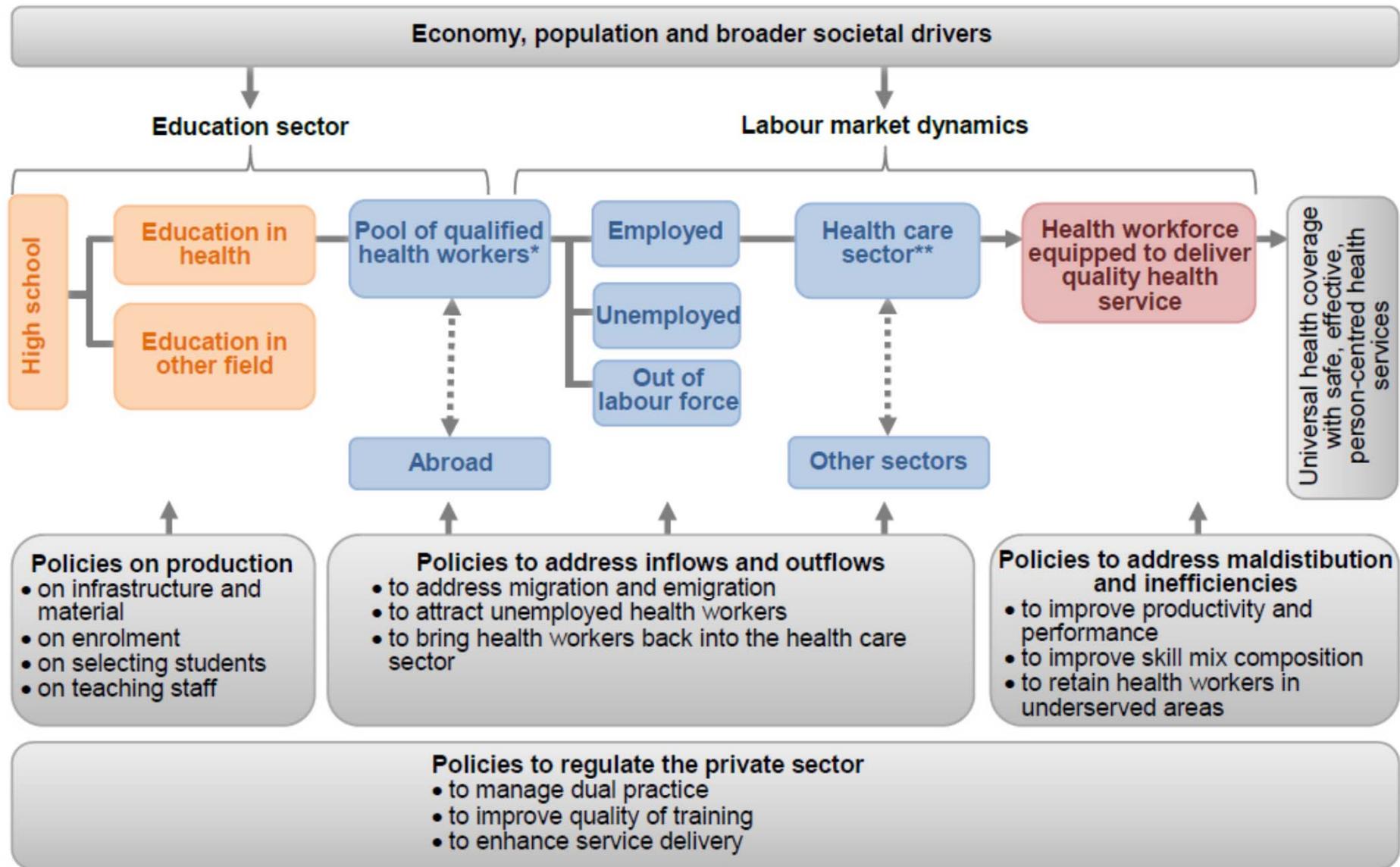
Investing in the health workforce



## Pathways linking health employment to economic growth



# Public Policy Levers to Shape Health Labour Markets



# #WORKFORCE2030

## and the Sustainable Development Goals

HEALTH WORKERS - A PROVEN RETURN ON INVESTMENT



PARTNERSHIP FOR THE GOALS

### GOAL 17

**Multi-stakeholder partnerships**-The design and implementation of effective health workforce policies rests on collaboration across different sectors (health, education, finance, labour) and stakeholders (public and private employers, professional associations, trade unions). Strengthening such collaborative platforms can have positive cascade effects on national and global partnerships for sustainable development.

**Data, monitoring and accountability**: The Global Strategy on Human Resources for Health: Workforce 2030 calls for investments in strengthening country analytical capacities of human resources for health and health system data.



SUSTAINABLE CITIES AND COMMUNITIES

### GOAL 11

The majority of the world's population lives in urban areas. Over 3.9 billion in 2014, of which 828 million live in slum conditions. Equitable access to health care will improve basic services for all.



REDUCED INEQUALITIES

### GOAL 10

Migration and mobility of health workers can result in inequitable access to health care, within and among countries. The *WHO Code of Practice on International Recruitment of Health Personnel* is a framework for guiding national dialogue among sectors and stakeholders to inform solutions to the challenges of health system sustainability and workforce mobility.



DECENT WORK AND ECONOMIC GROWTH

### GOAL 8

The health care sector is one of the largest employment sectors in most countries. It is a source for full and productive employment and decent work for all women & men and can actively counter high rates of youth unemployment in urban, rural and remote areas.

GENDER EQUALITY

### GOAL 5

Women are a large part of the health workforce and obtaining qualified jobs in the formal sector of the economy can be a driver of gender empowerment. However, opportunities for women to engage in high level professions are constrained. Health workers'

employment conditions need to be gender-sensitive allowing equal opportunities for career development. Violence, harassment and discrimination during training, recruitment, employment and in the work place must be eliminated.



### GOAL 1

Healthy societies are engines for economic growth. Health workers are at the core of health systems ensuring healthy lives and wellbeing.

NO POVERTY



### GOAL 2

Substantive and strategic investments in the global health workforce are essential to provide essential health services including those related to nutrition.

ZERO HUNGER



### GOAL 3

The health workforce is central in translating the vision of universal health coverage into reality. Goal 3c "to substantially increase health financing and the recruitment, development, training and retention of the health workforce ..." sets the foundation for the vision and objectives of the Global Strategy on Human Resources for Health: #Workforce2030, which provides guidance and policy options for countries looking to improve the health of their populations.

HEALTH AND WELLBEING



### GOAL 4

Girls' education is a strategic development investment. Inclusive and equitable education can lead to greater economic growth, better health outcomes, and improved global security. Equal opportunities to affordable and quality technical, vocational and tertiary education will improve the pool of high-school graduates and qualified health workers.

QUALITY EDUCATION



# Summary

- There is a huge unmet need for skilled health human resources for radiotherapy; huge HHR gap
- There are numerous opportunities to close the gap by revolutionizing the health professional education
- Modern technologies, IT, digital future, and automation extend new opportunities to redefine RT professions
  - methods of learning, practice modes
  - integration of research, education, and practice
  - globalization of skills
- Health system planners must address HHR issues
  - Integrate education into population based cancer plans
- Health employment for economic growth



# Acknowledgements

Meredith Giuliani

Julio Frenk

Rifat Atun

Srinath Reddy

David Jaffray

Yolande Lievens

Eduardo Zubizarreta

David Naylor

Gabrielle Kane

Felicia Knaul

Thank you





